Revista Mexicana de Astronomía y Astrofísica, Volumen 4, Julio 1978

AN ATLAS OF STELLAR SPECTRA. II

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Received 1978 February 13

RESUMEN

En este trabajo se presentan los espectros de 35 estrellas. Hasta el momento se han publicado los espectros de un total de 50 estrellas obtenidos usando el nuevo Espectrofotómetro Michelson. Dos de los espectros anteriormente publicados se repiten en el presente trabajo debido a la introducción de nuevos datos. Los nuevos espectros se encuentran en el sistema de la primera parte de este *Atlas* y se presentan corregidos por la absorción atmosférica en líneas y bandas.

ABSTRACT

In this paper are published the spectra of 35 stars. There are now a total of 50 stars for which spectra obtained using new Michelson Spectrophotometer system are published. Two of the previously published spectra are repeated here because of the addition of significant new data. These new spectra are essentially on the system of the first installment of this *Atlas*, and are corrected for all significant atmospheric absorption bands and lines.

Key words: **INFRARED — SPECTRA, STARS — INDIVIDUAL.**

This publication is the second in a series which will impart the stellar spectra obtained with our newly-developed Michelson spectrophotometer system. This second installment of the *Atlas* includes spectra of 33 stars not previously published in this series, plus new spectra of two stars published before, but for which significant additional data are now available.

With this new publication, the *Atlas* now contains the spectra of a total of 50 stars. Table 1 provides an account of the stars which have been observed, and their spectral types. Although not all spectral types are yet included, the data do provide a reasonably representative sample of types from O to M, a few S stars and carbon stars, and several early-type emission-line and shell stars. These spectra are available on digital magnetic tape from the Stellar Data Center at the Strasbourg Observatory in France. A description of the Michelson Spectrophotometer system and the data reduction procedures has been published separately (Johnson 1977).

The spectra for three stars (α Lyr, β Lyr, α Cyg) are shown in compressed form in Figures 1, 2 and 3. The compressed format permits an easier view of the entire spectrum but, of course, hides many of the details which are visible in a more expanded format. Figures 4 to 38 contain the expanded spectra of 35 stars. Interpretations of these spectra are being published separately.

The spectra are plotted as linear intensity graphs versus wavenumber in inverse micrometers (lower scale) and nanometers (upper scale).

TABLE 1

THE OBSERVED STARS

Star	Sp. Type	Star	Sp. Type	Star	Sp. Type	Star	Sp. Type
Supergiants		*Giants*		*Dwarfs*		*S Stars*	
λ Cep	O6 f	α Peg*	B9.5 III	θ^1 C Ori*	O6 p	R And*	S6,6e
ζ Ori†	O9.5 Ib	ε Cyg	K0 III	γ Cas*	B0 IV:e	χ Cyg	S7,1e
ε Ori	B0 Ia	β Gem*	K0 III	θ^1 D Ori*	B1		
P Cyg*	B1 ep	η Peg	K1 III	φ Per*	B2 pe		
55 Cyg	B3 Ia	α Boo	K2 III p	η UMa	B3 V		
χ Aur	B5 Iab	α Ser	K2 III	ζ Peg*	B8 V	*Carbon Stars*	
HD 183143	B7 Ia	γ^1 And	K3 II	α Lyr	A0 V	T Lyr*	C5,3
β Ori	B8 Ia	α Tau†	K5 III	ζ Aql	A0 V:nn	W Ori*	C5,3
α Cyg*	A2 Ia	β And	M0 III	α Aql	A7 IV, V	DS Peg	C6,3
ε Aur	F0 Iap	α Peg*	M2 II-III	β Cas	F2 IV		
α Per	F5 Ib	α Her A	M5 II	γ Ser	F6 V		
δ Cep	F5-G1 Ib	g Her	M6 III	λ Ser	G0 V		
γ Cyg	F8 Ib	R Cas*	gM7 e	BS 483	G2 V	*Peculiar Eclipsing Binaries*	
β Aqr	G0 Ib	o Cet*	(gM9, at min.)	Sun‡	G2 V		
VV Cep	M2 Iep + B9			61 Cyg A	K5 V	β Lyr	B pe

* This spectrum was published in the first installment of this *Atlas*.

† The spectrum of this star was published previously, but is republished here because of the addition of significant new data.

‡ The spectrum of the Sun, as reflected by the Moon and a satellite of Jupiter.

REFERENCES

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Johnson, H. L. 1977, *Rev. Mex. Astron. Astrof.*, **2**, 219.

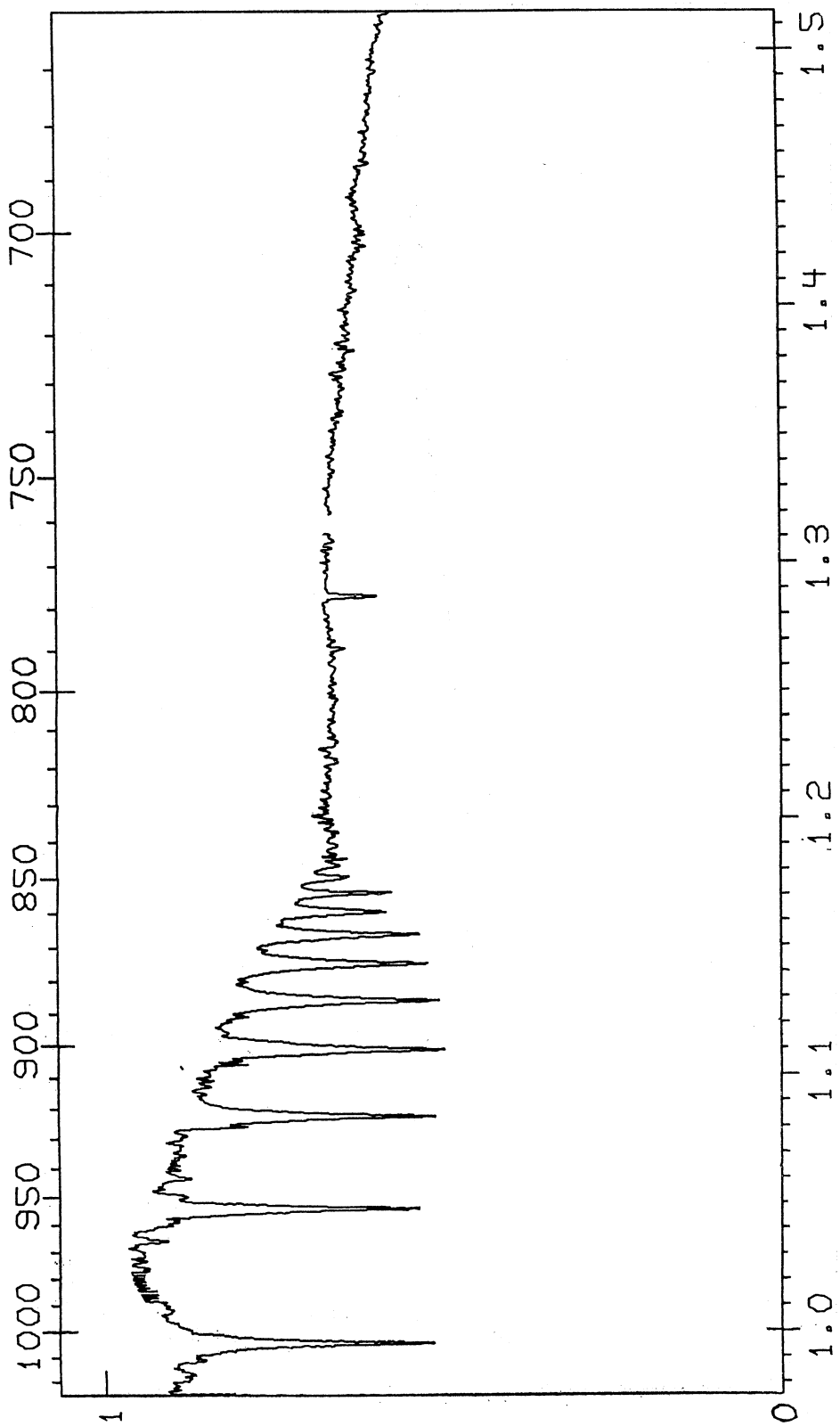
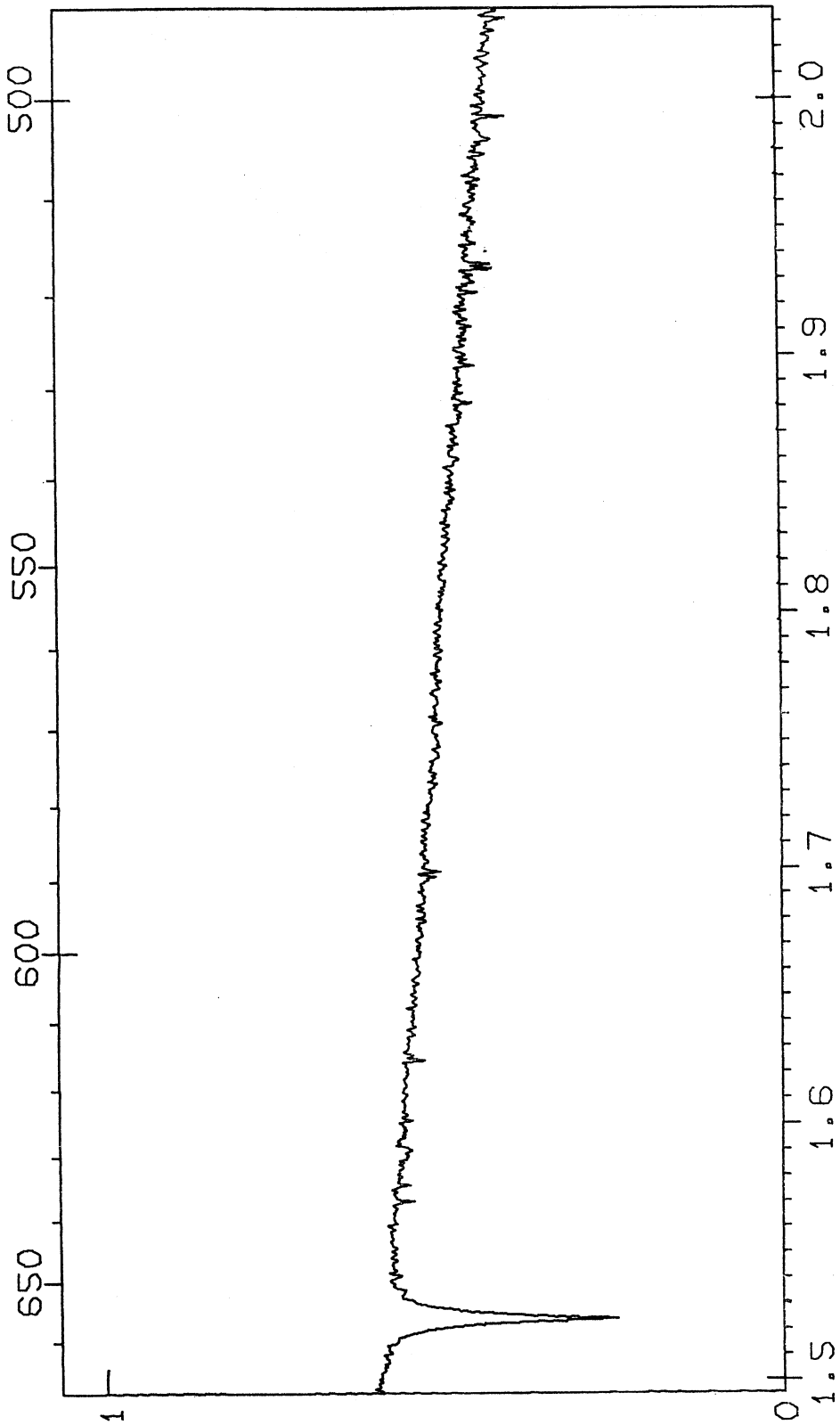


FIG. 1. The compressed spectrum of α Lyr.



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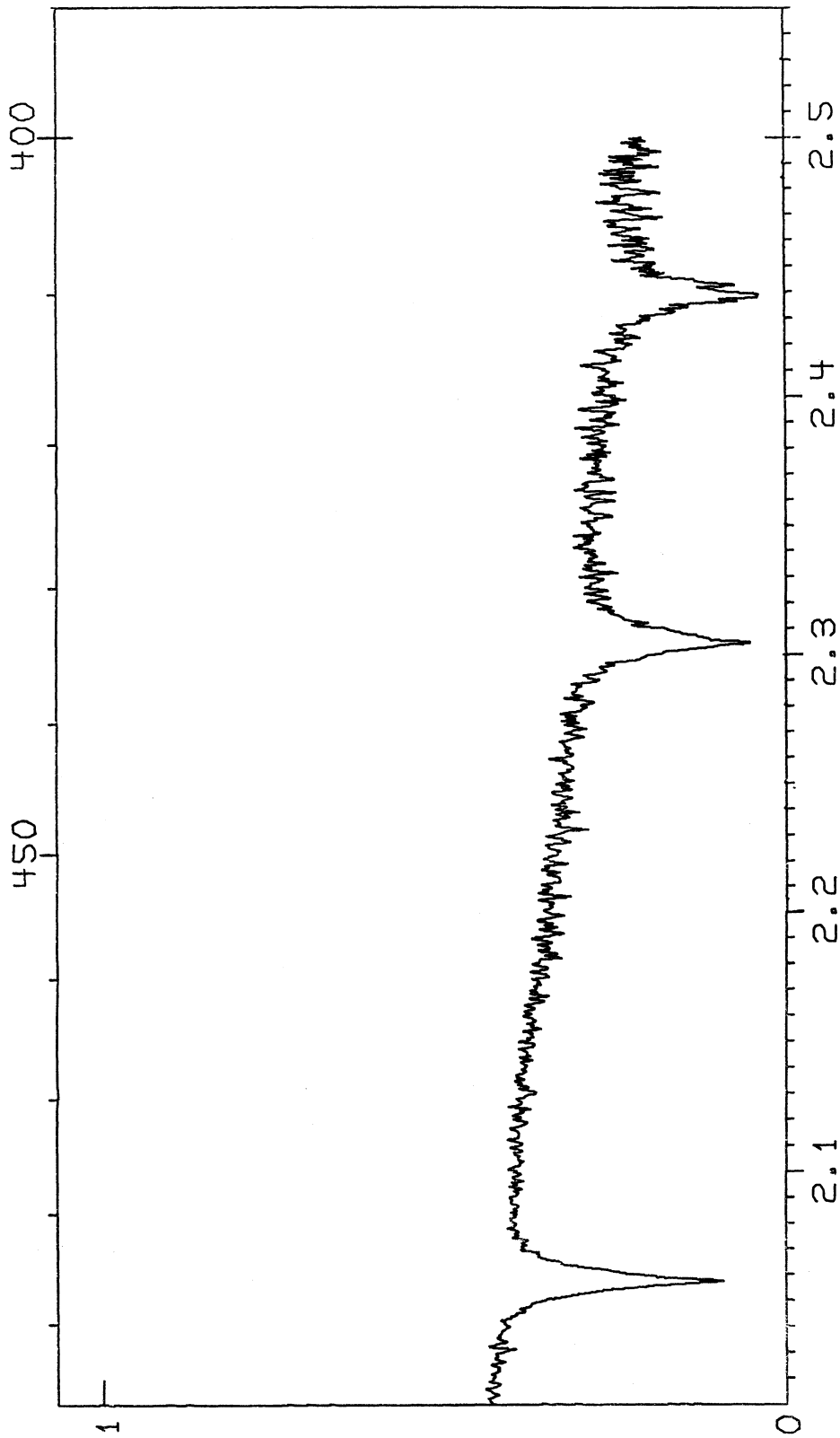

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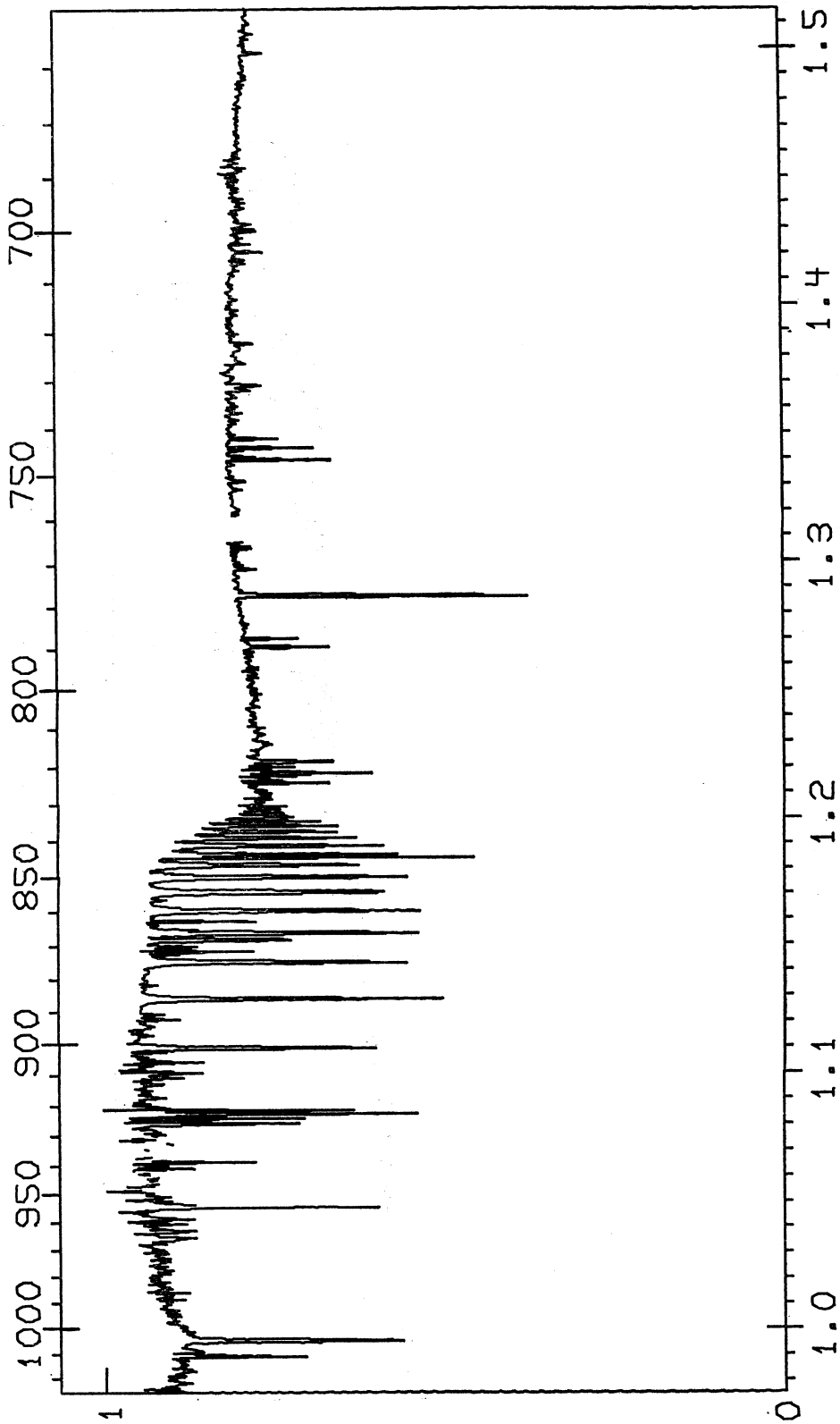
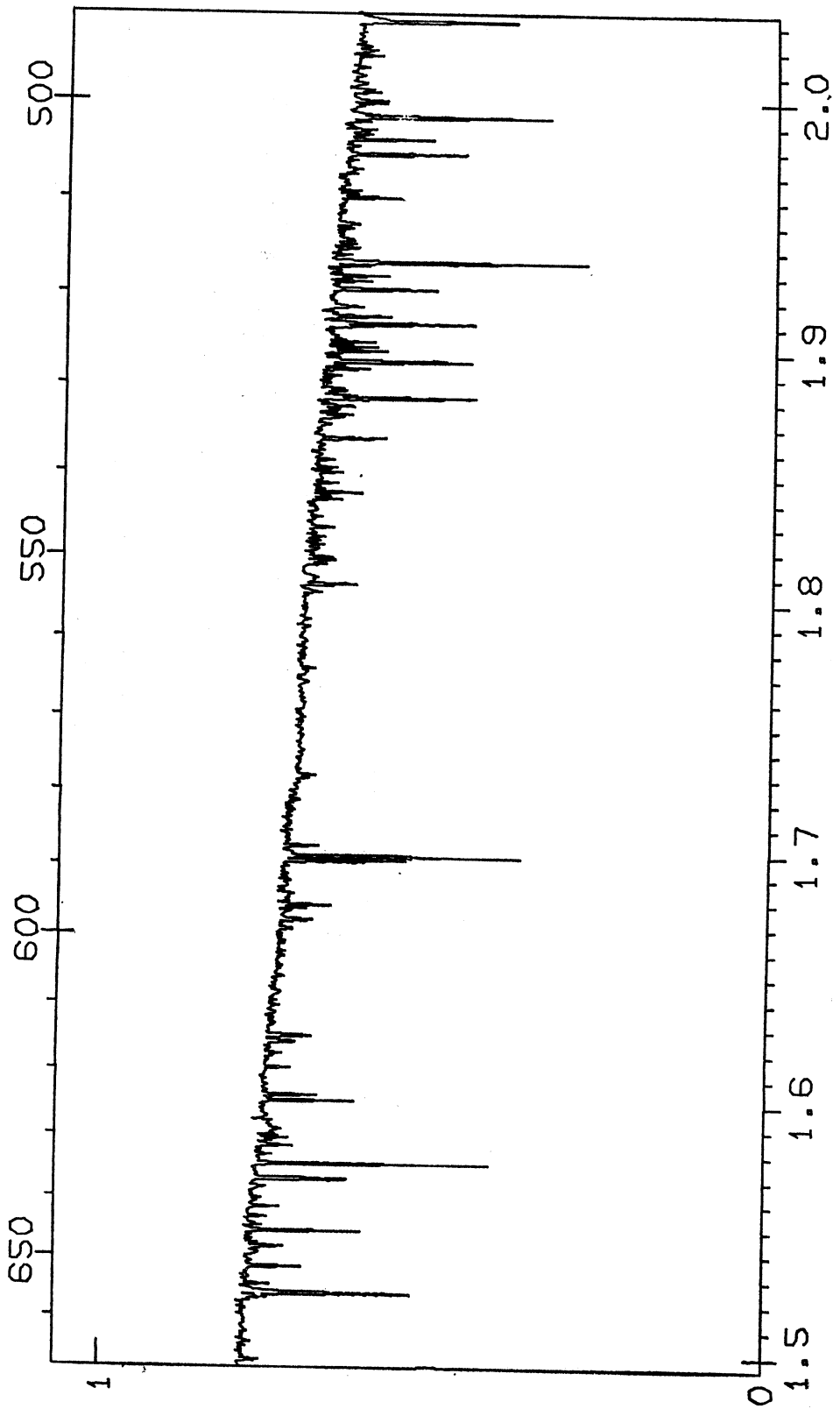


FIG. 2. The compressed spectrum of α Cyg.



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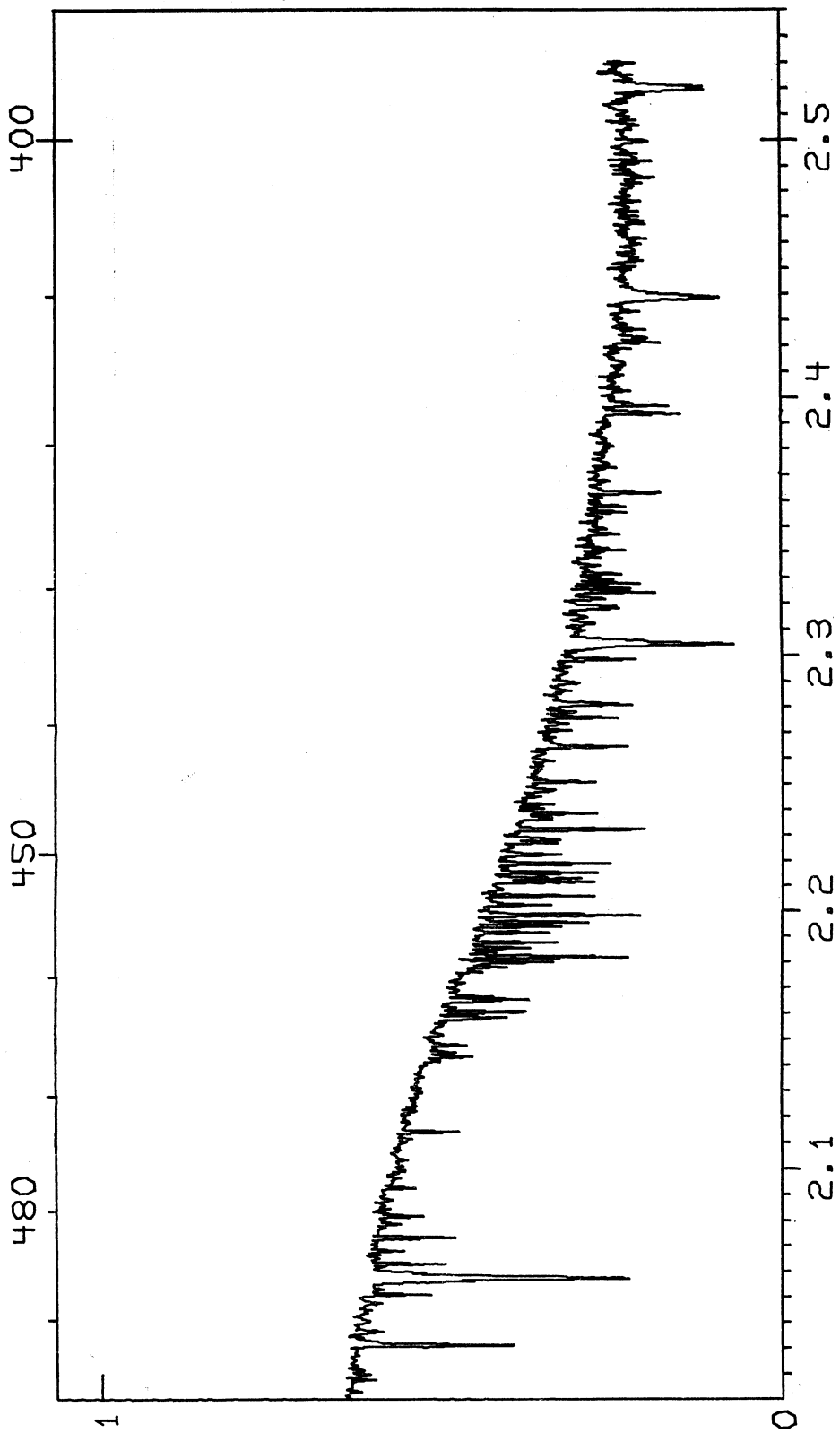

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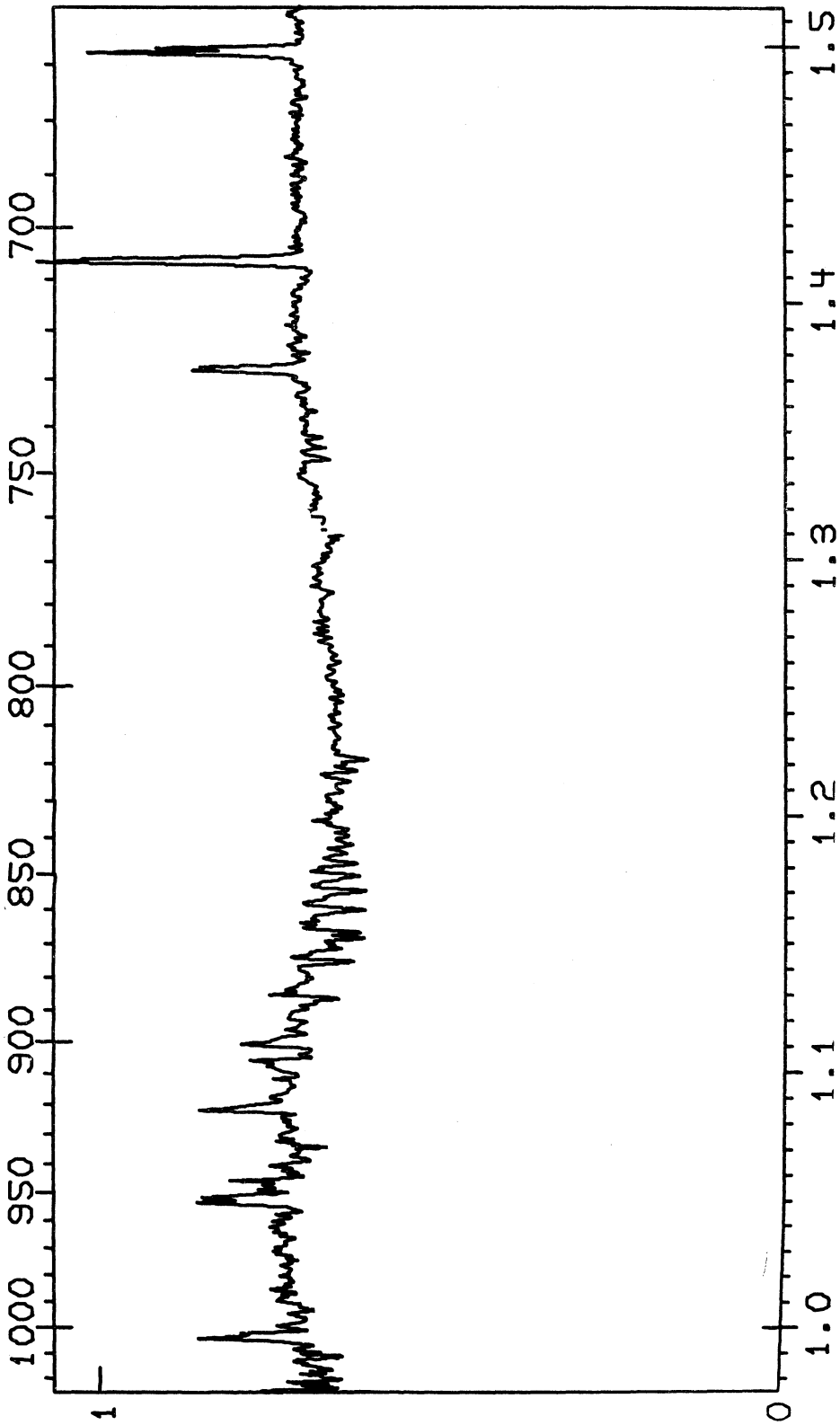
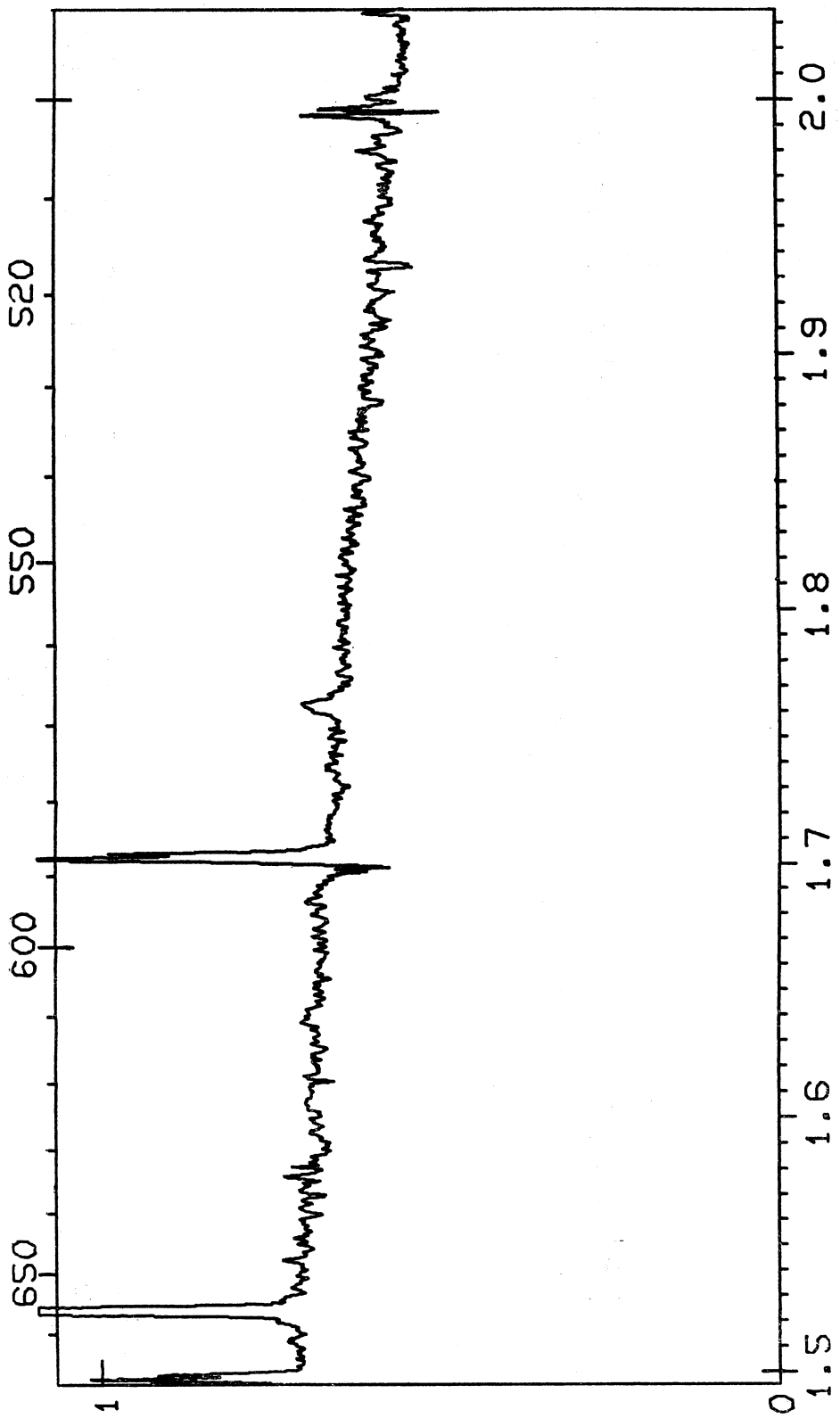


FIG. 3. The compressed spectrum of β Lyr.



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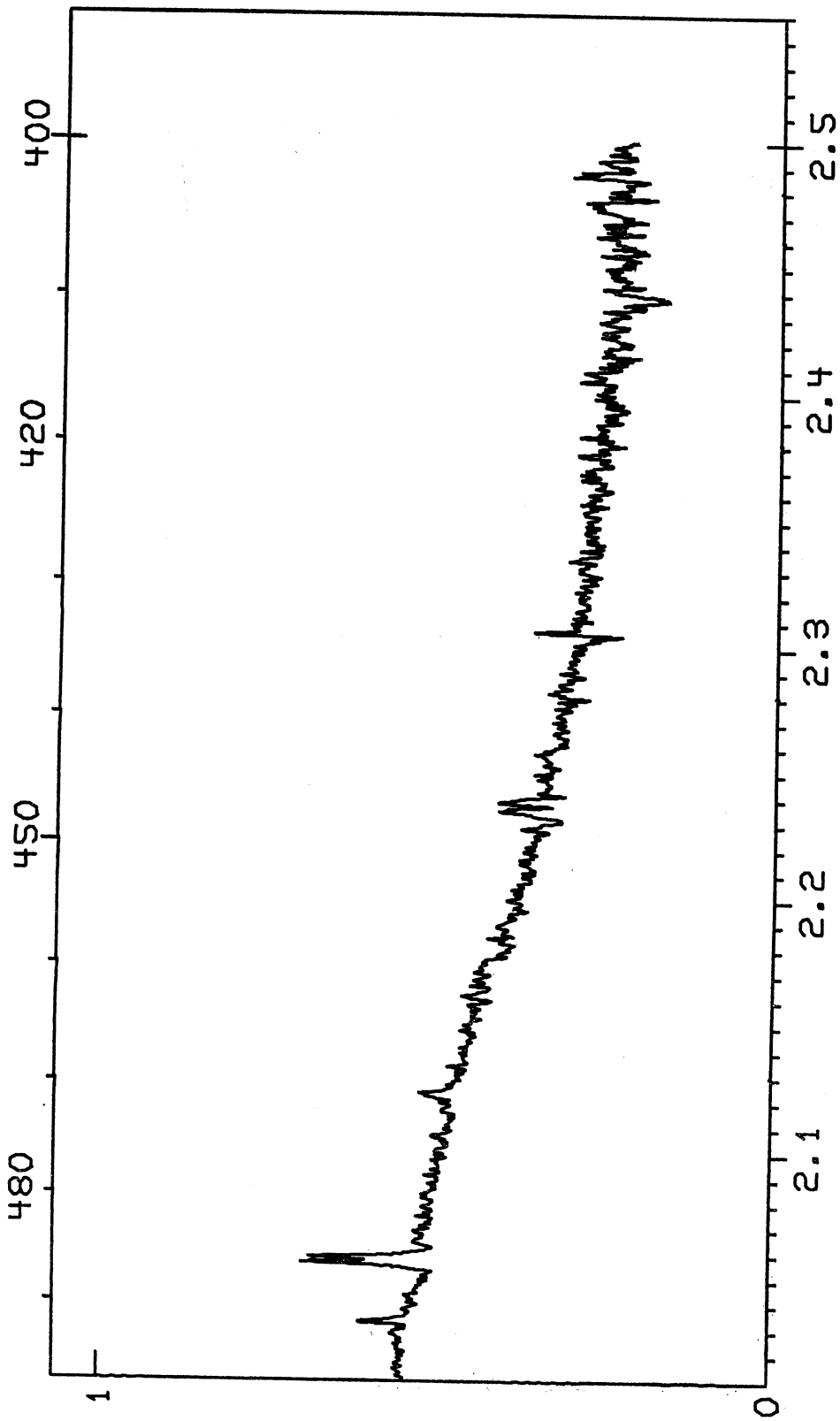

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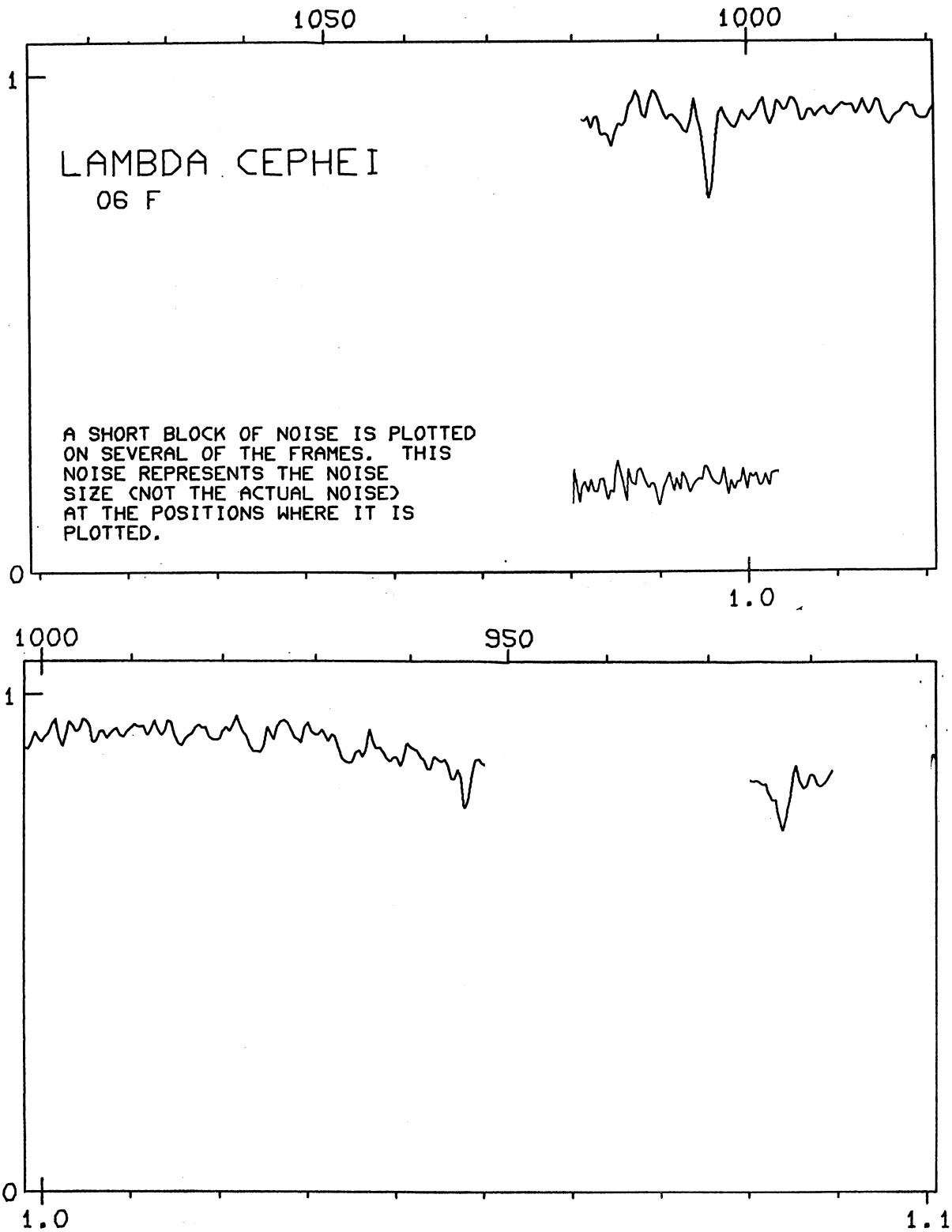
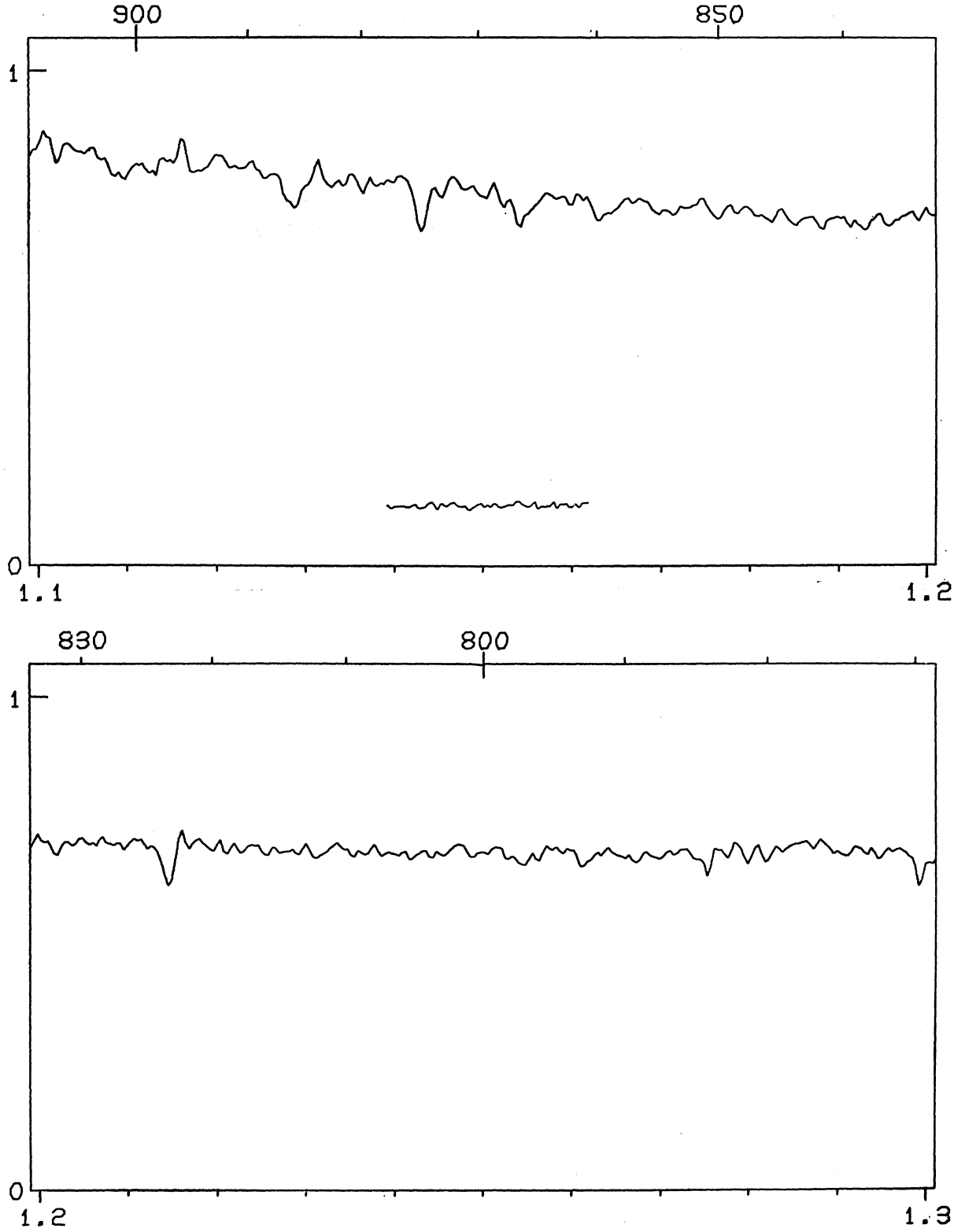


FIG. 4. The spectrum of λ Cep.



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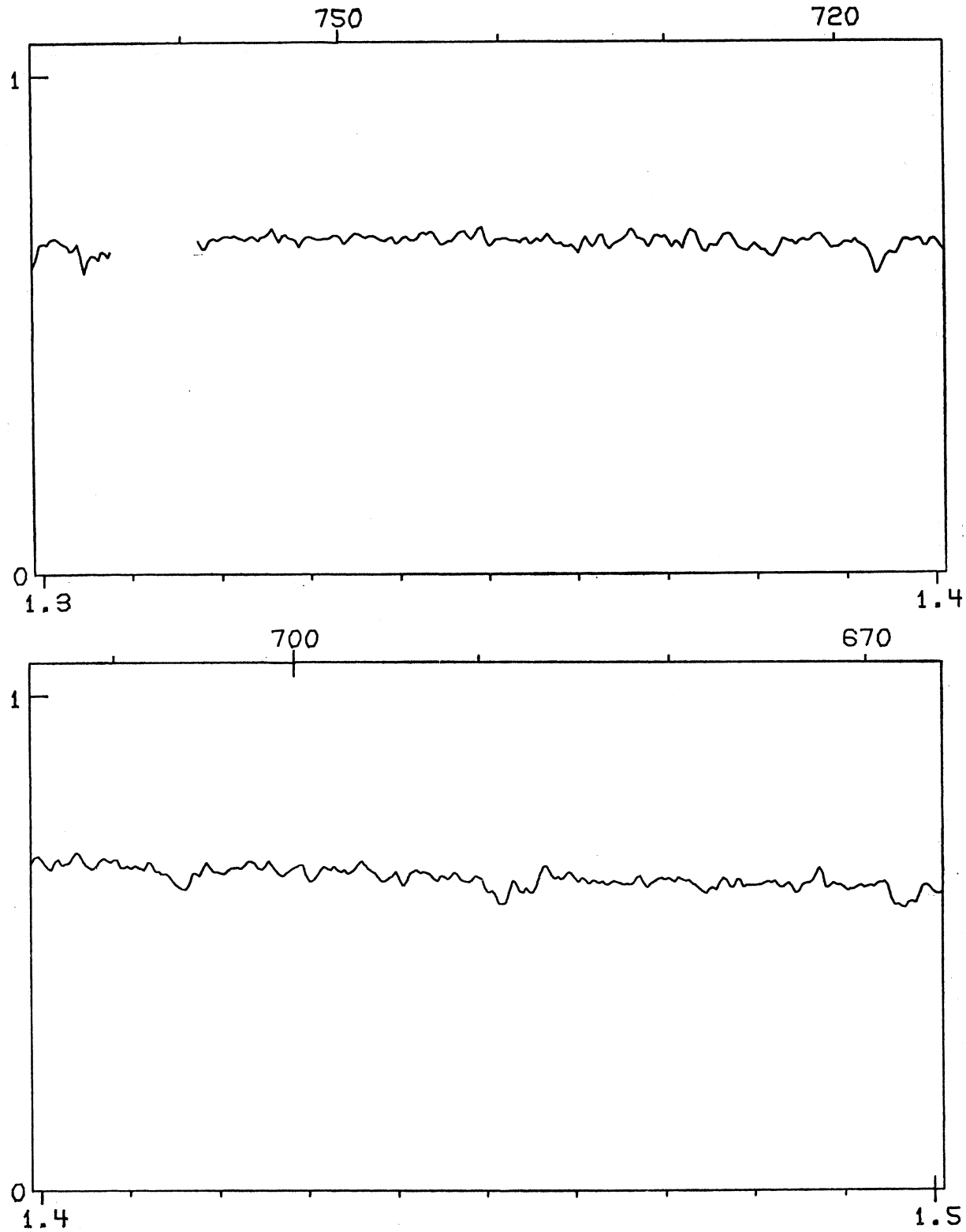

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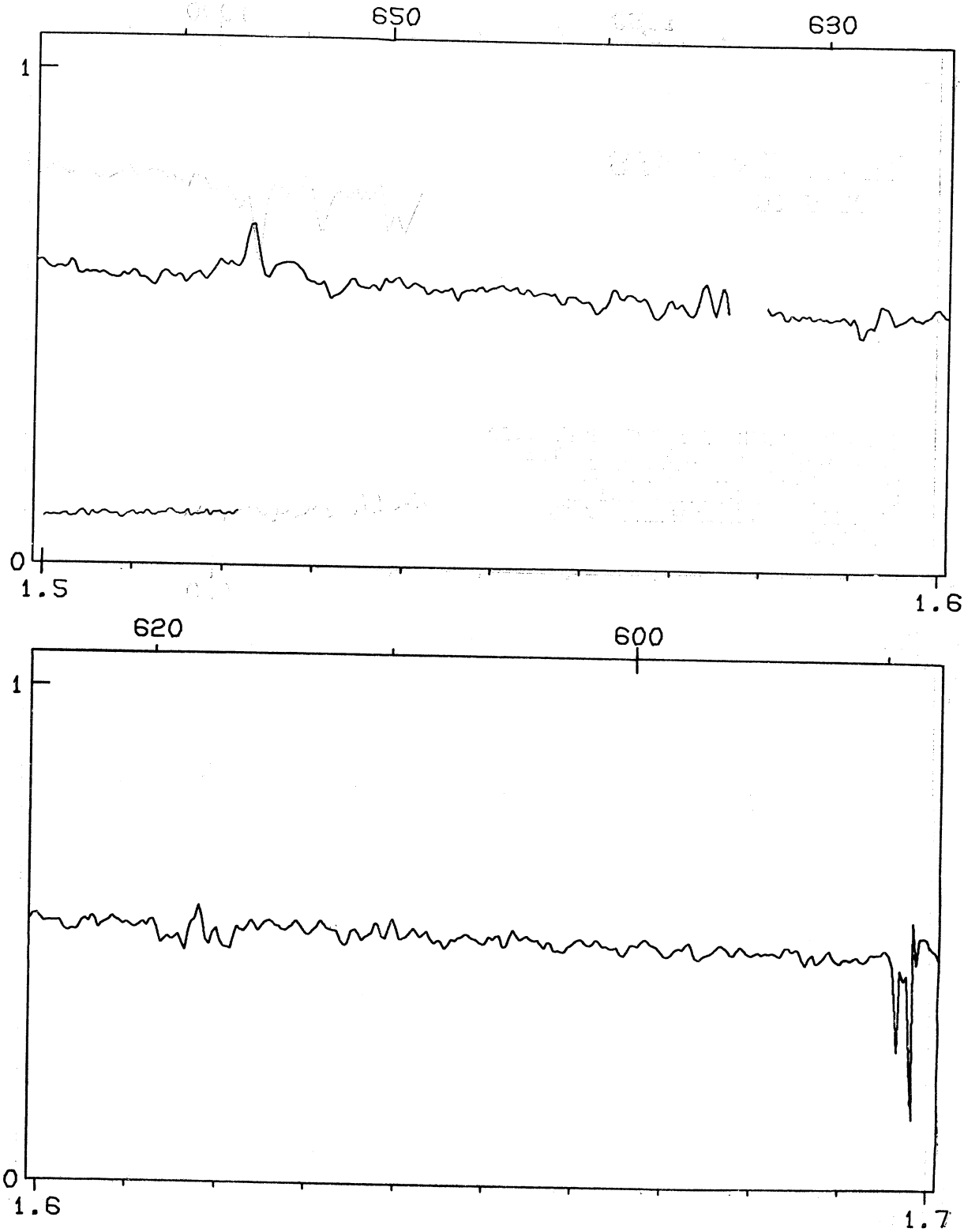

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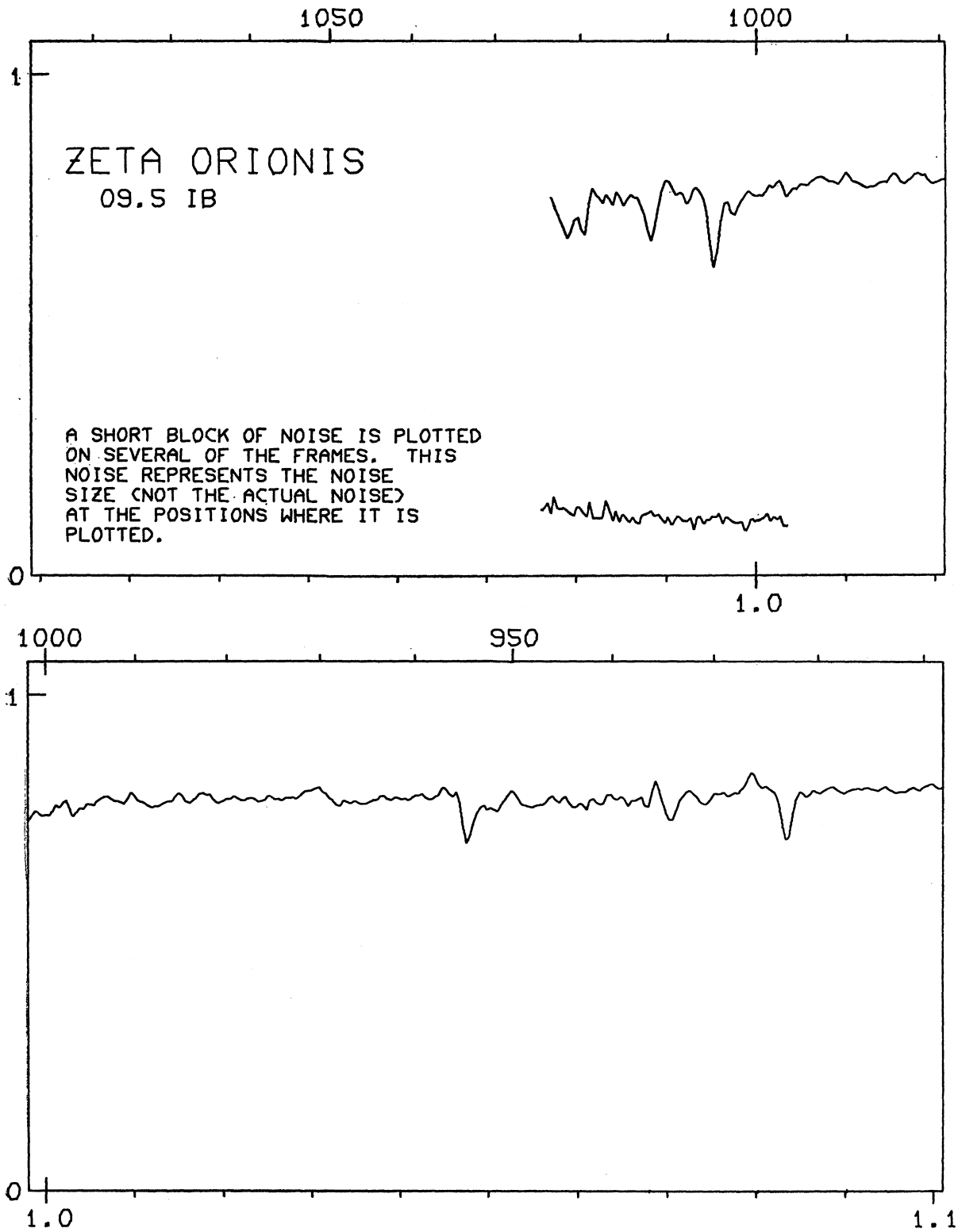
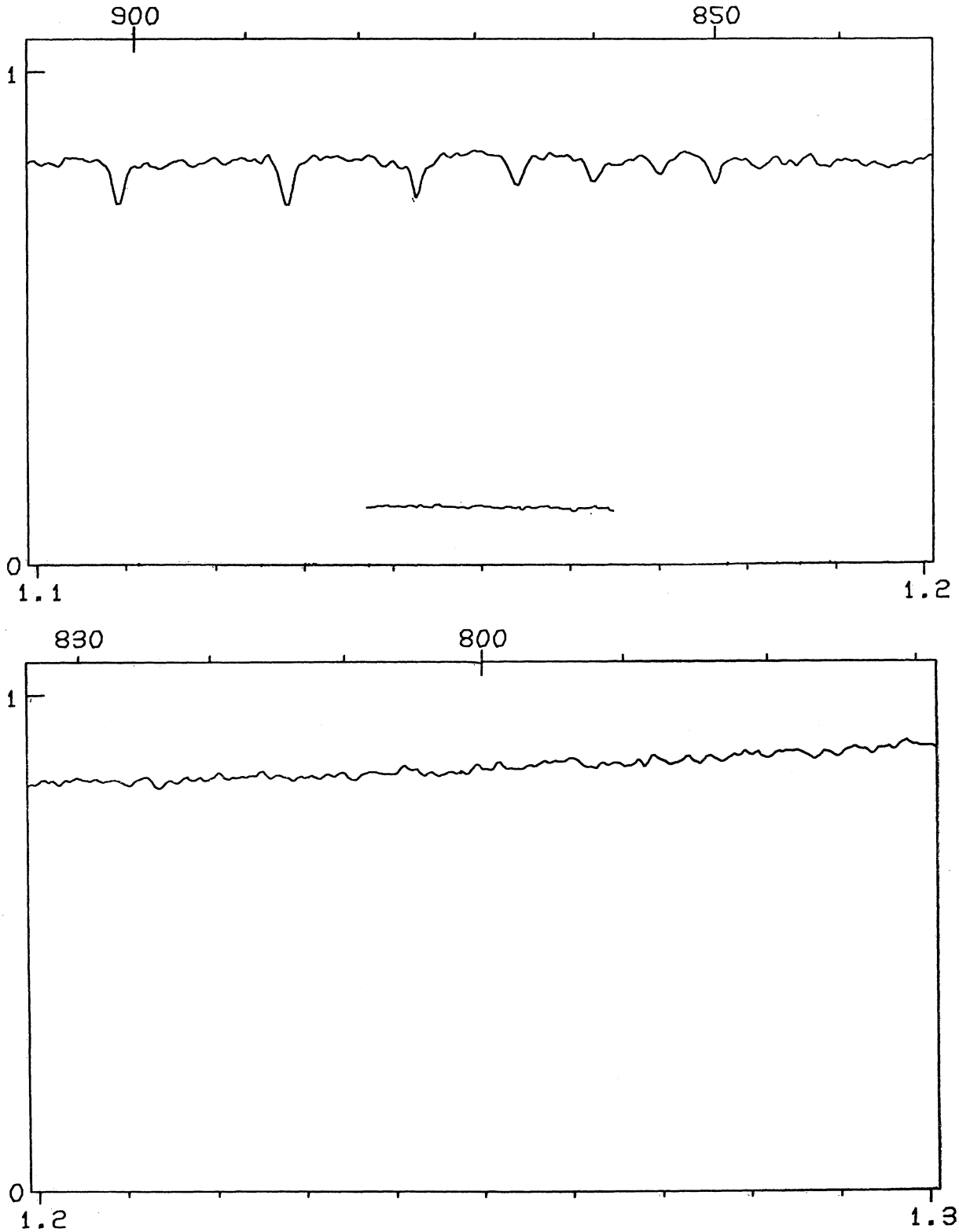


FIG. 5. The spectrum of ζ Ori.



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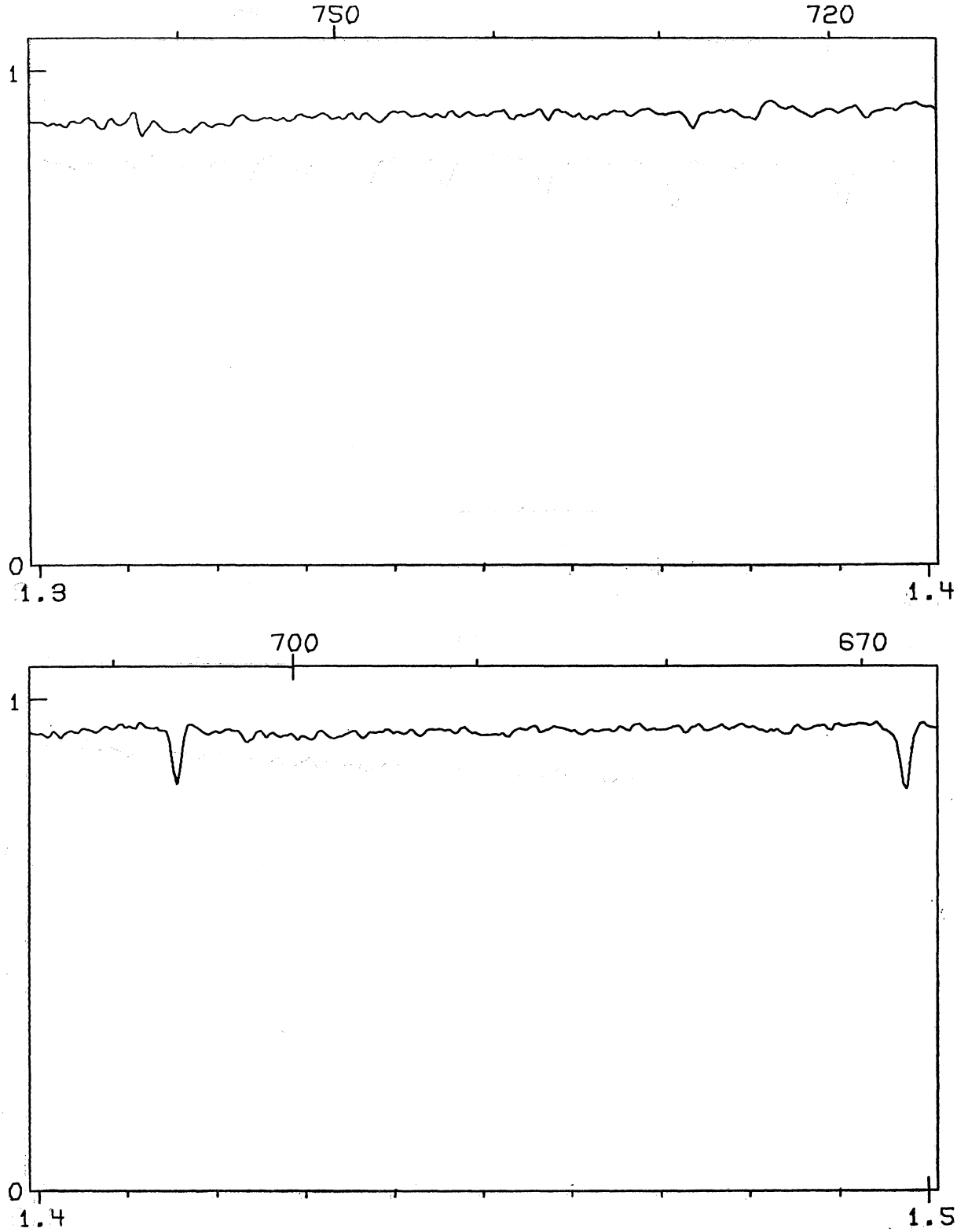

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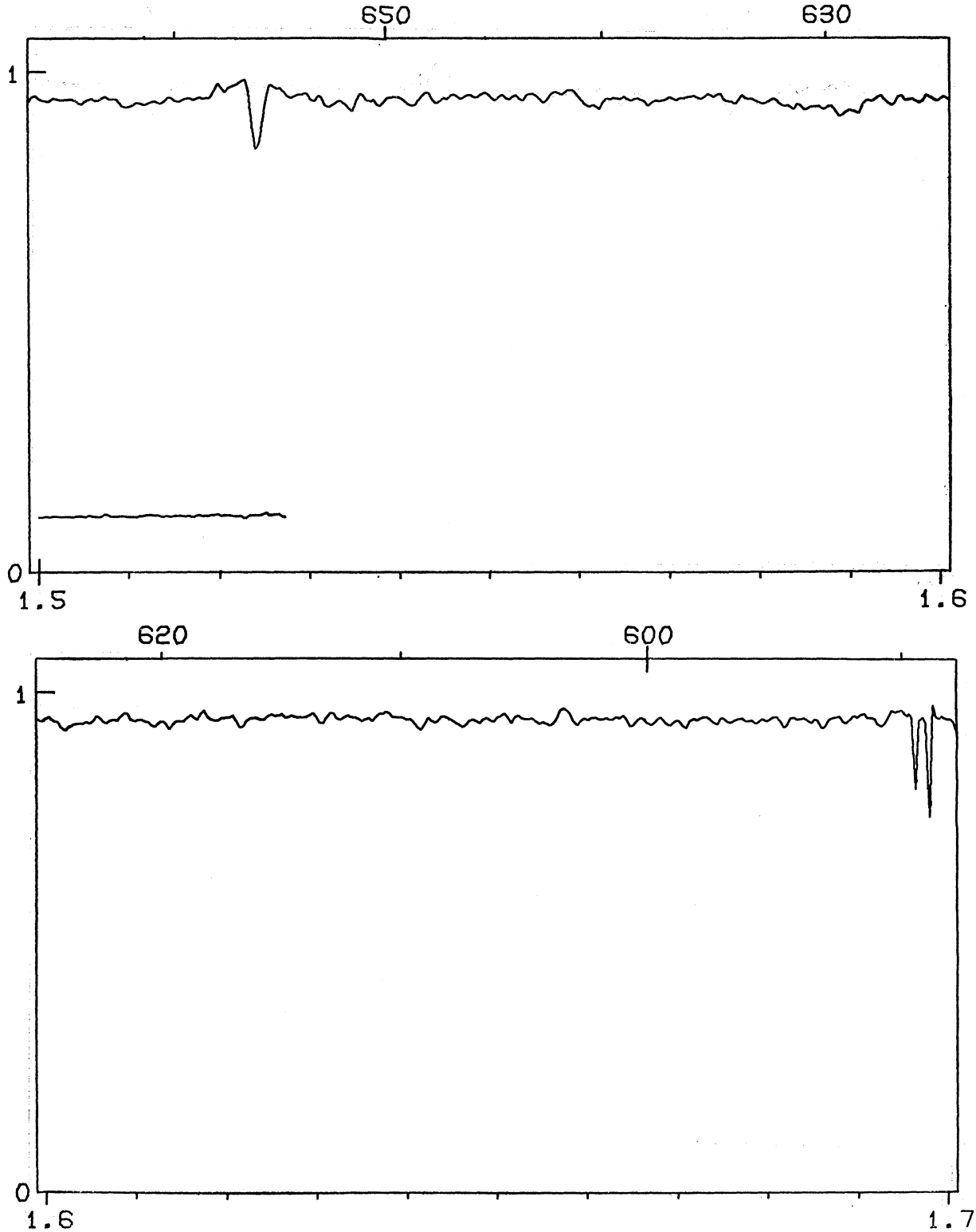

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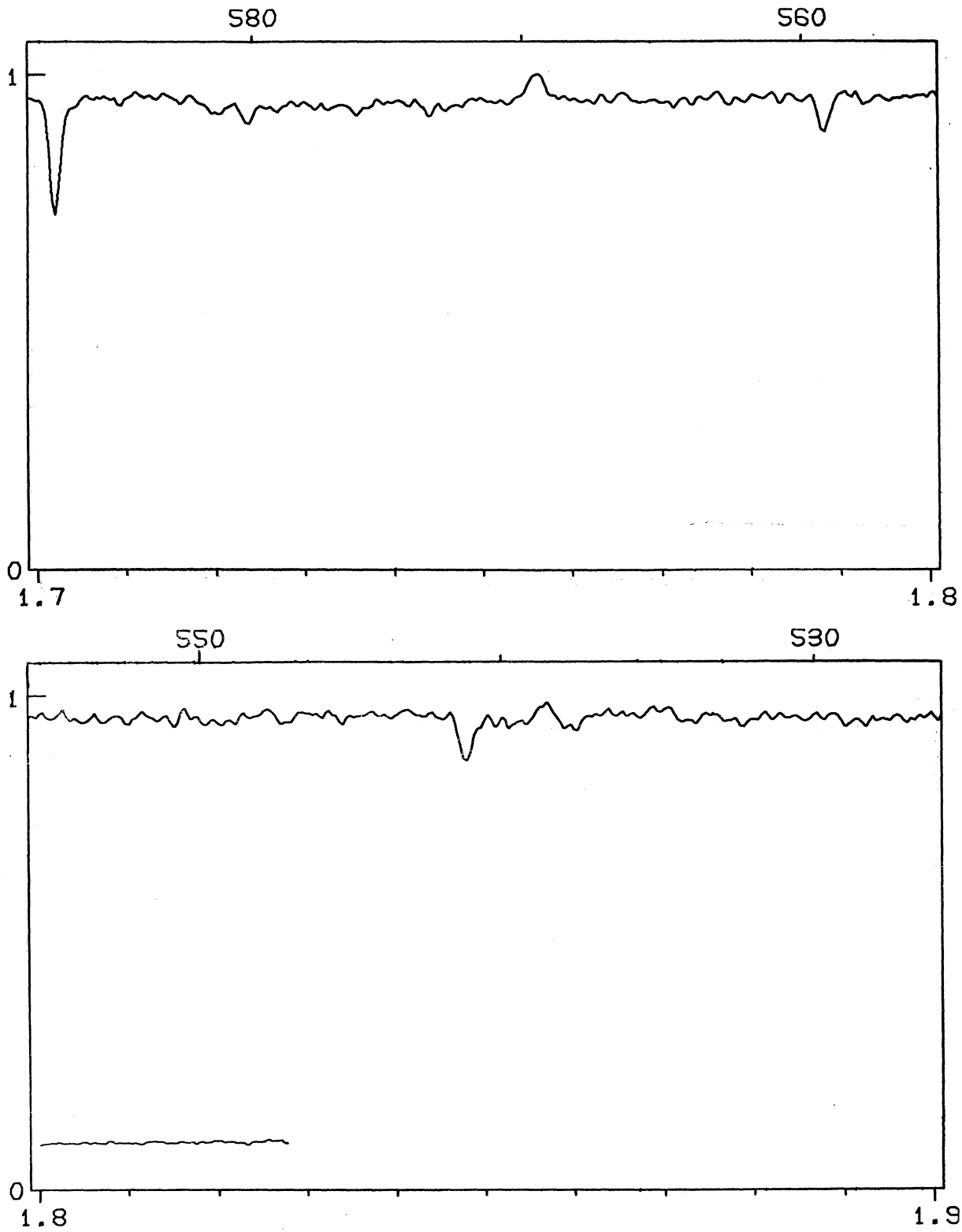

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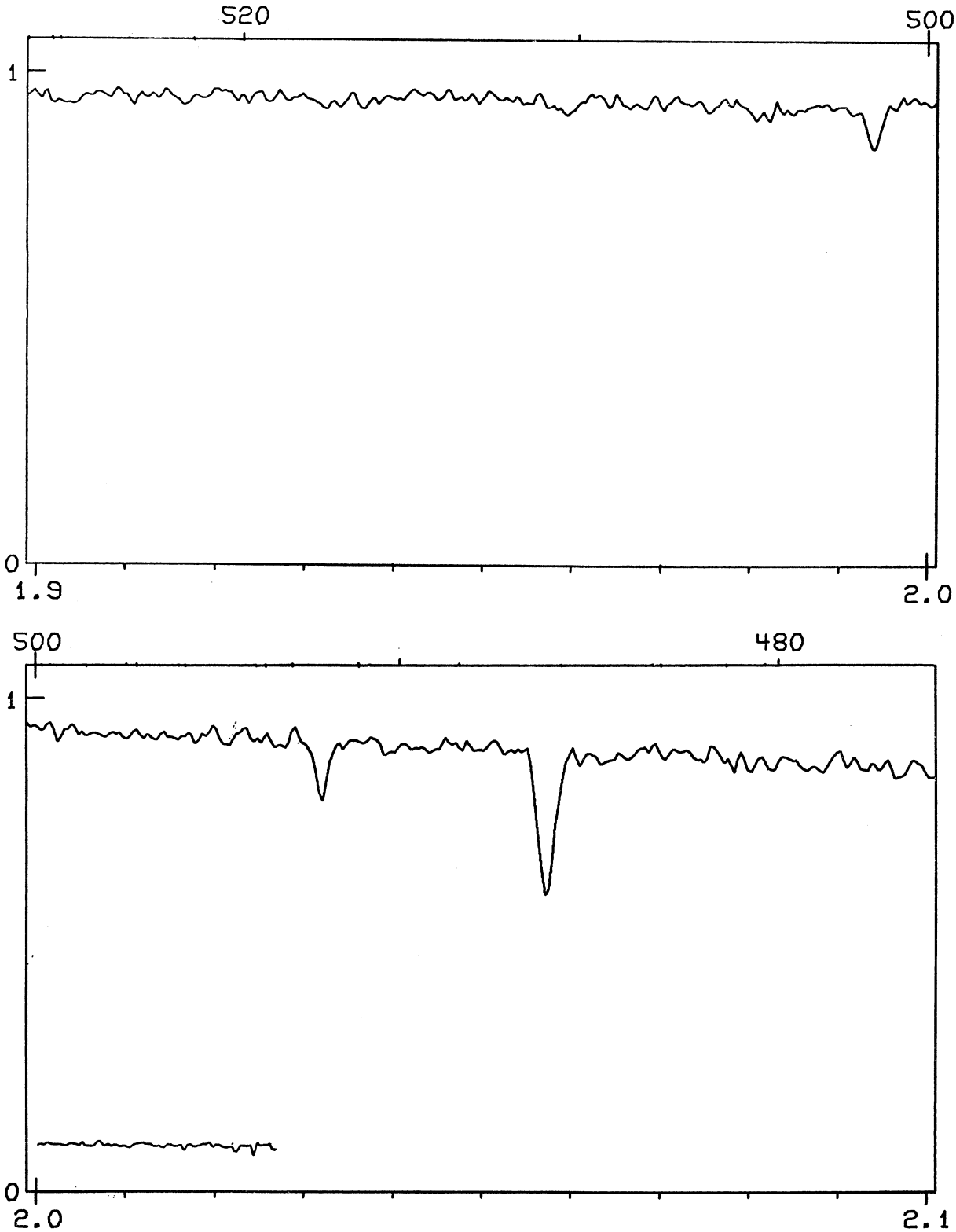

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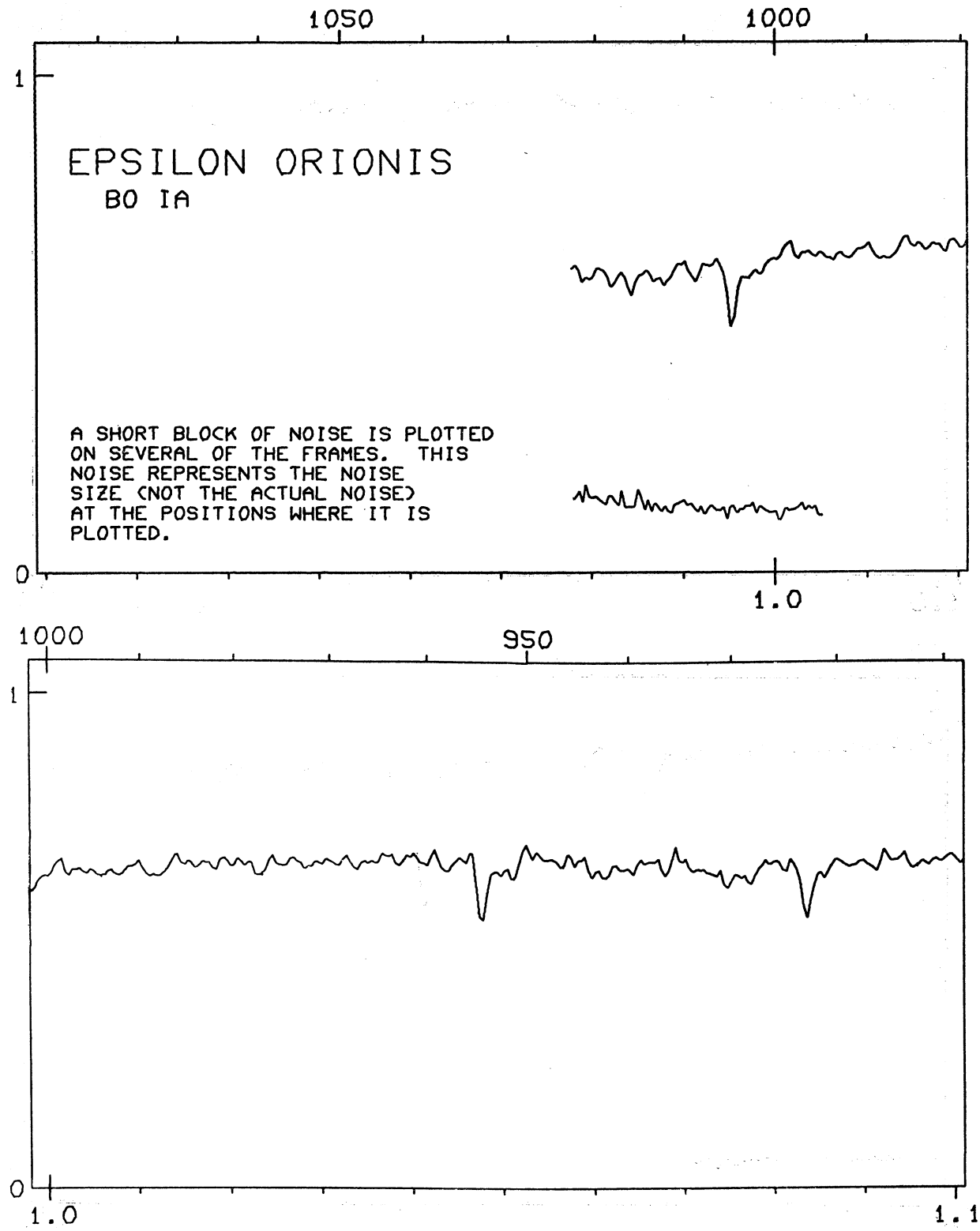
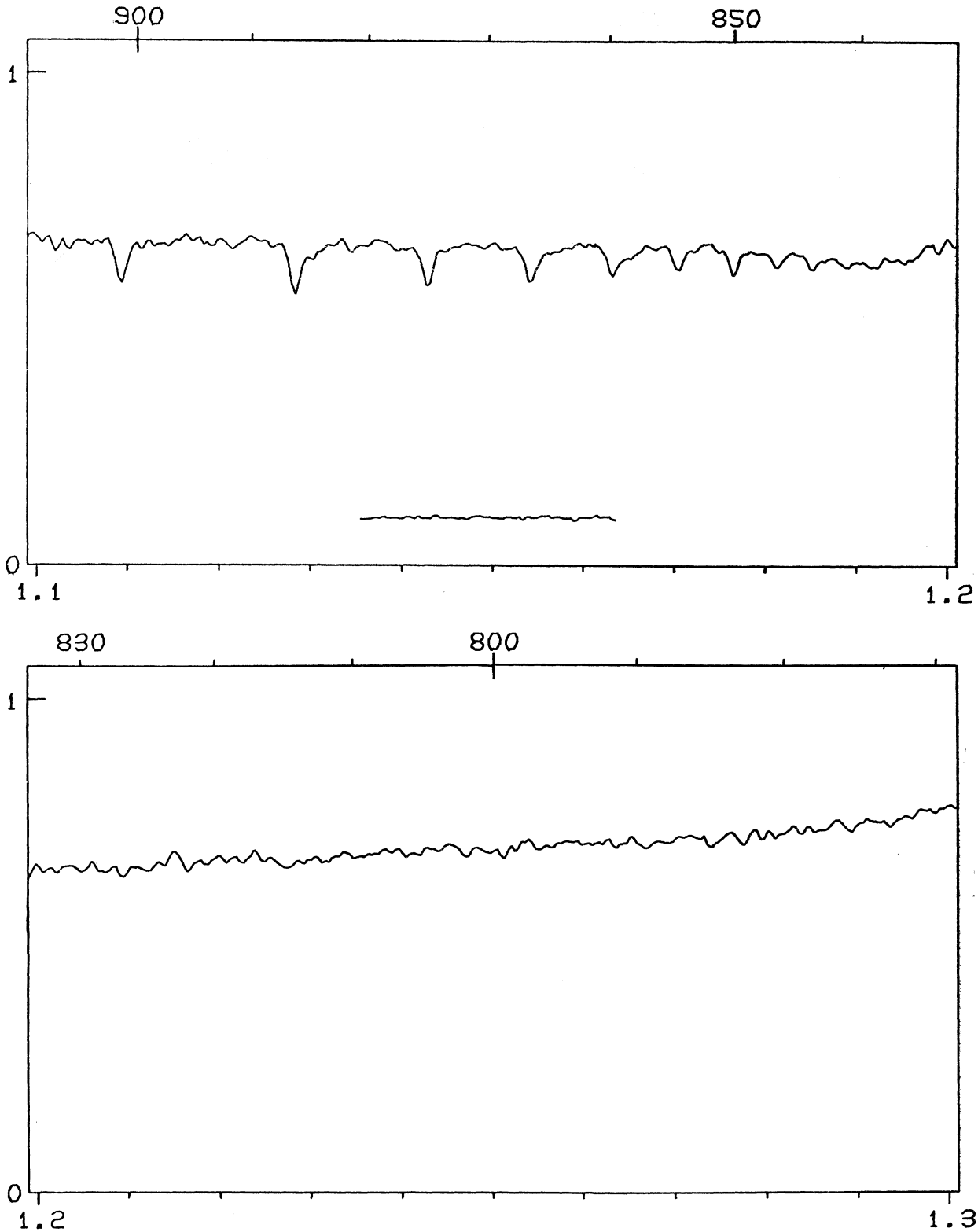


FIG. 6. The spectrum of ϵ Ori.



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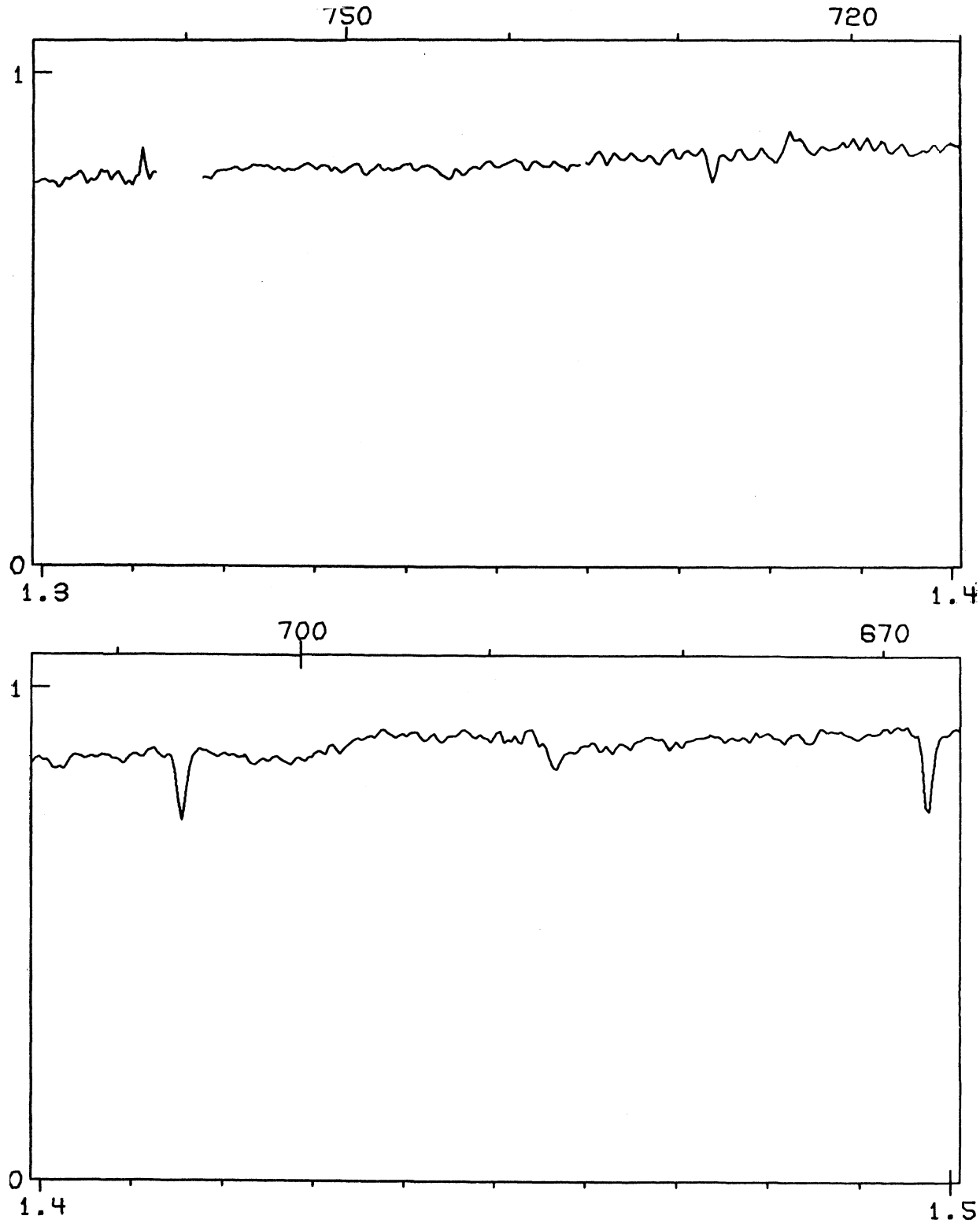

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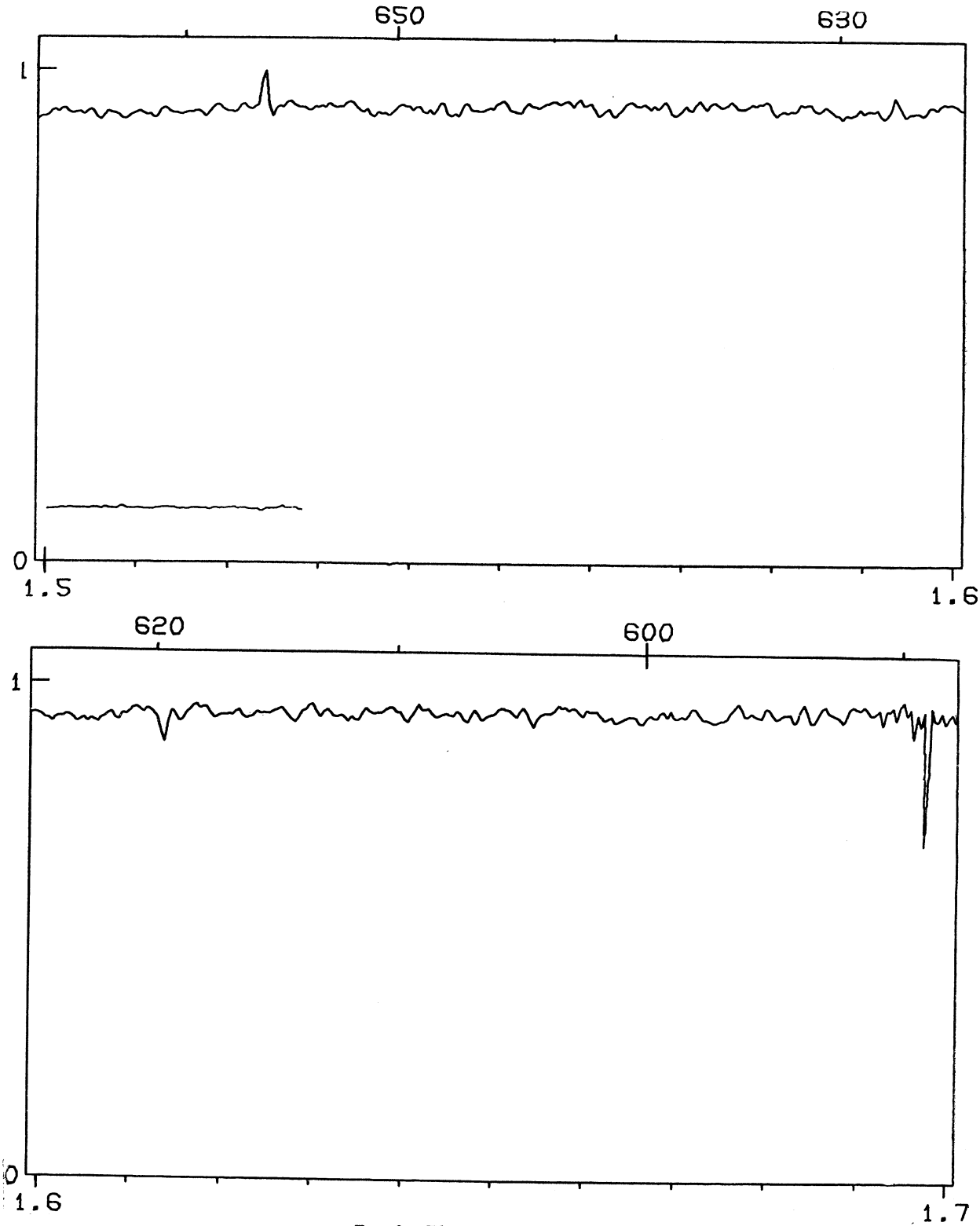

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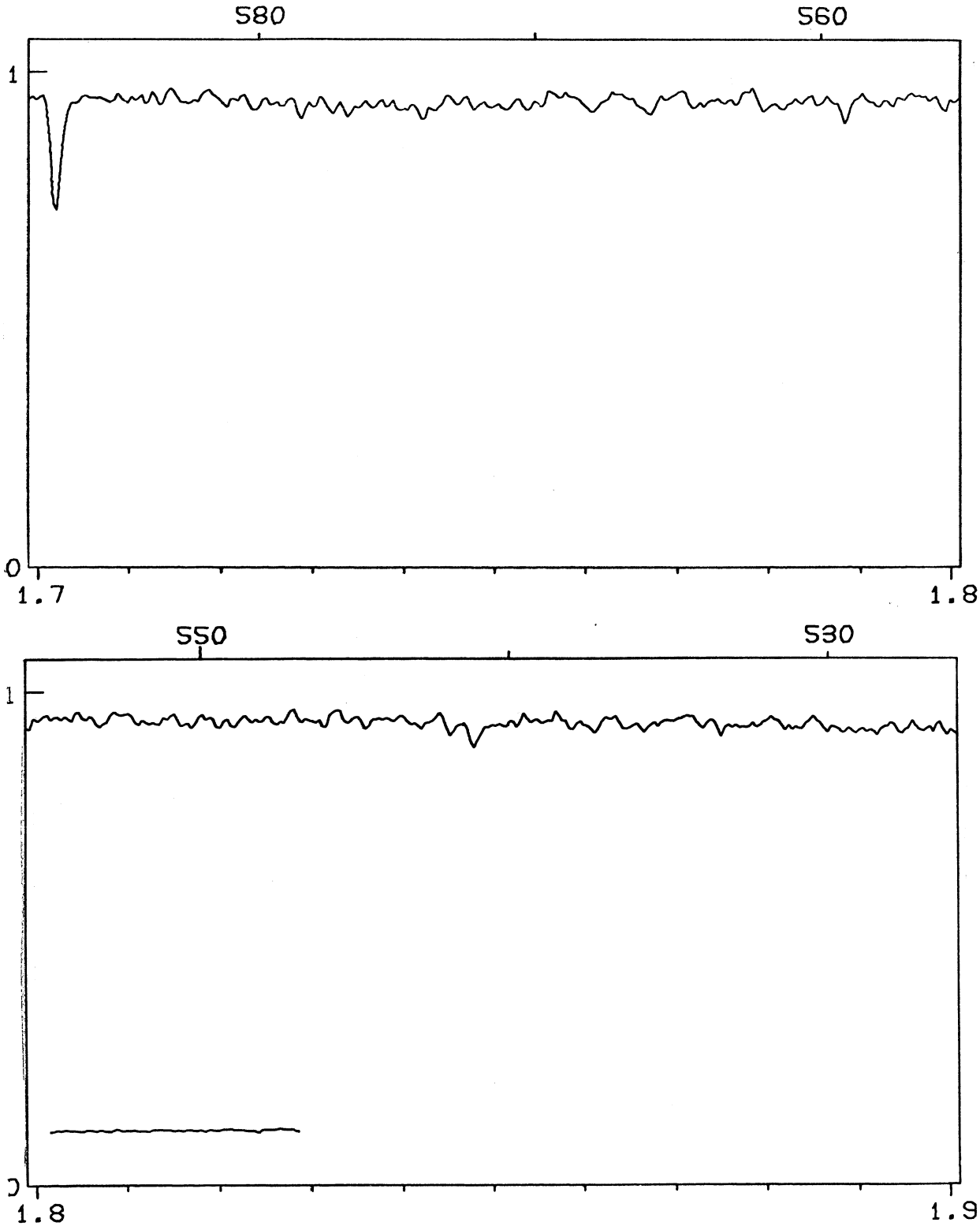

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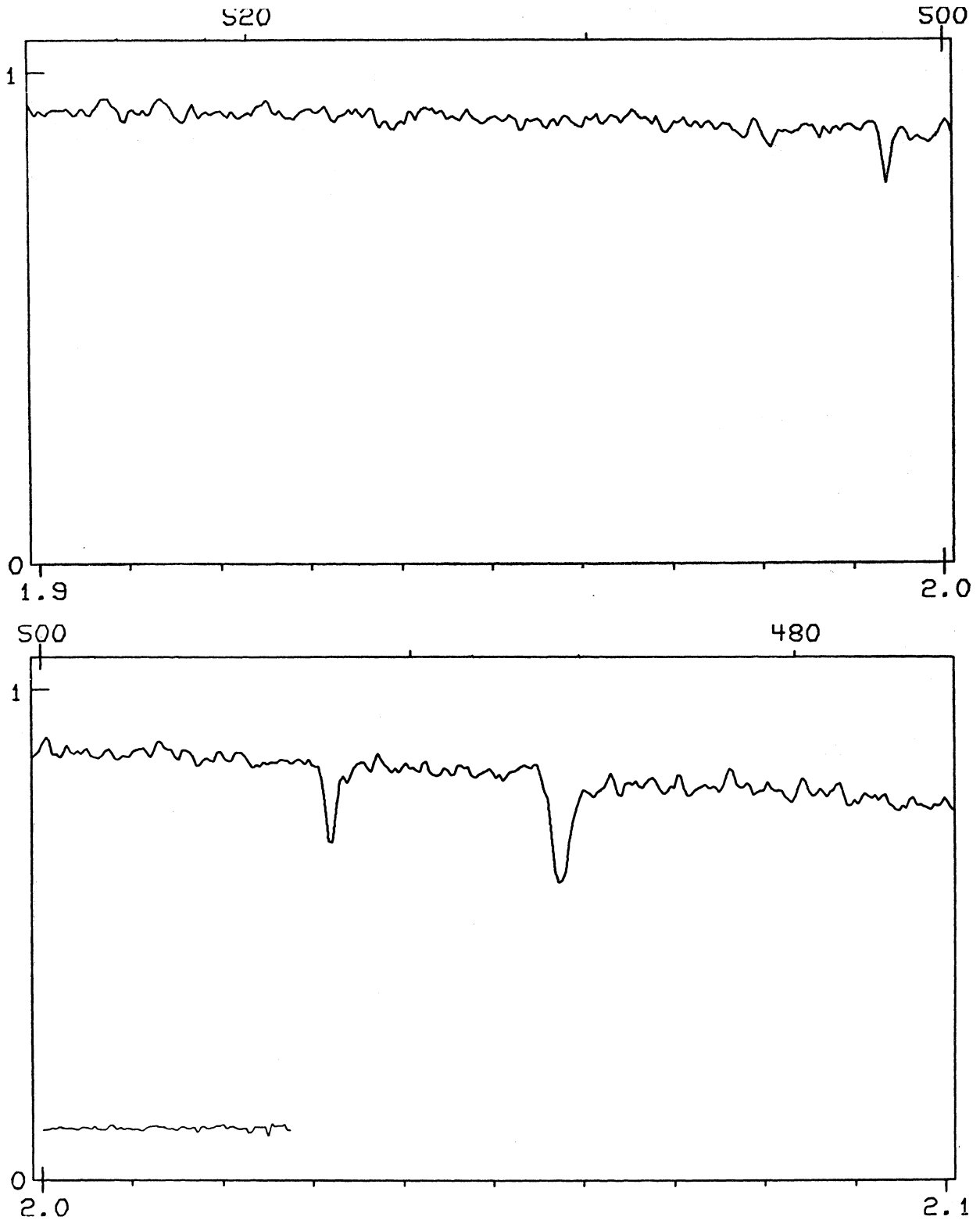

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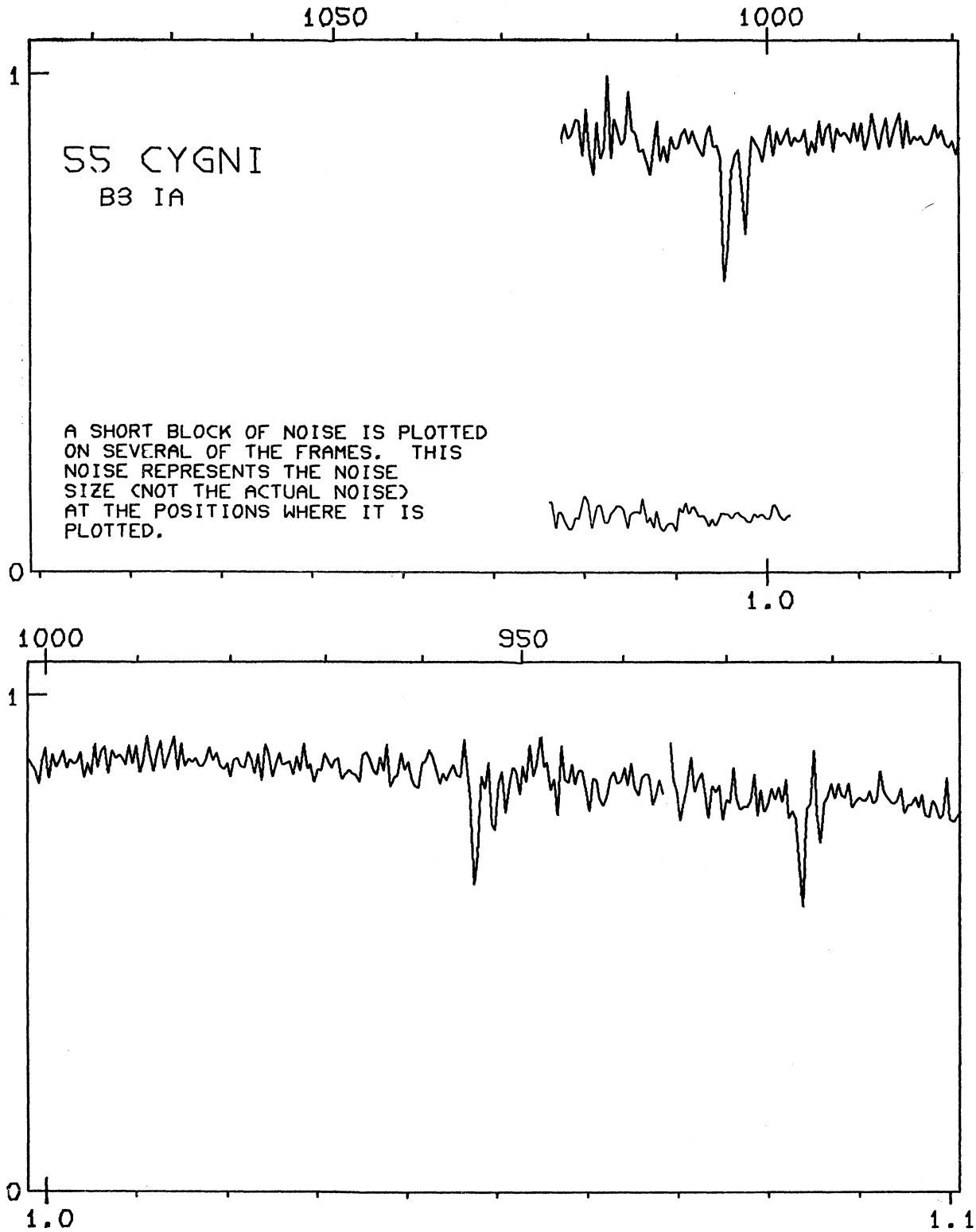
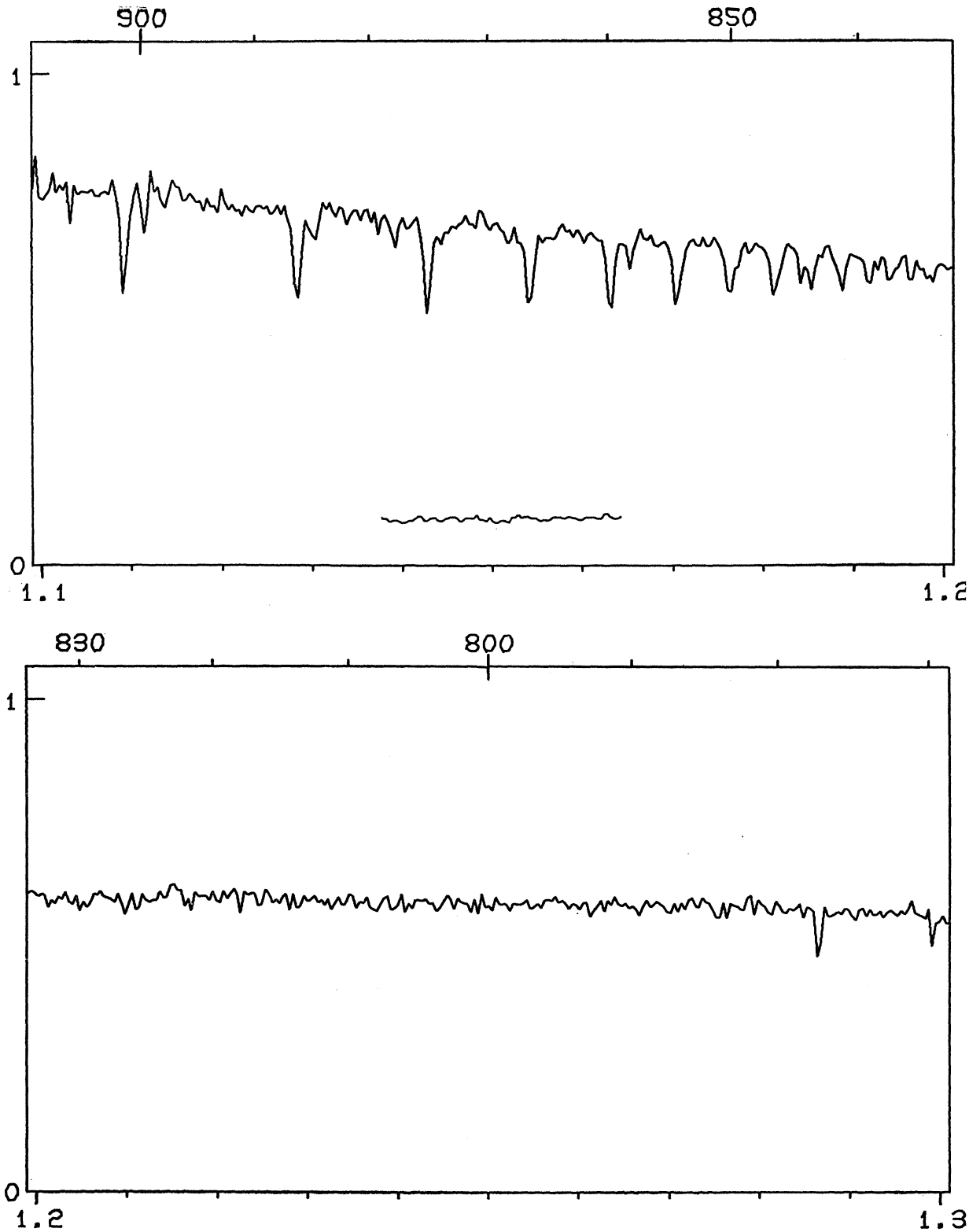


FIG. 7. The spectrum of 55 Cyg.



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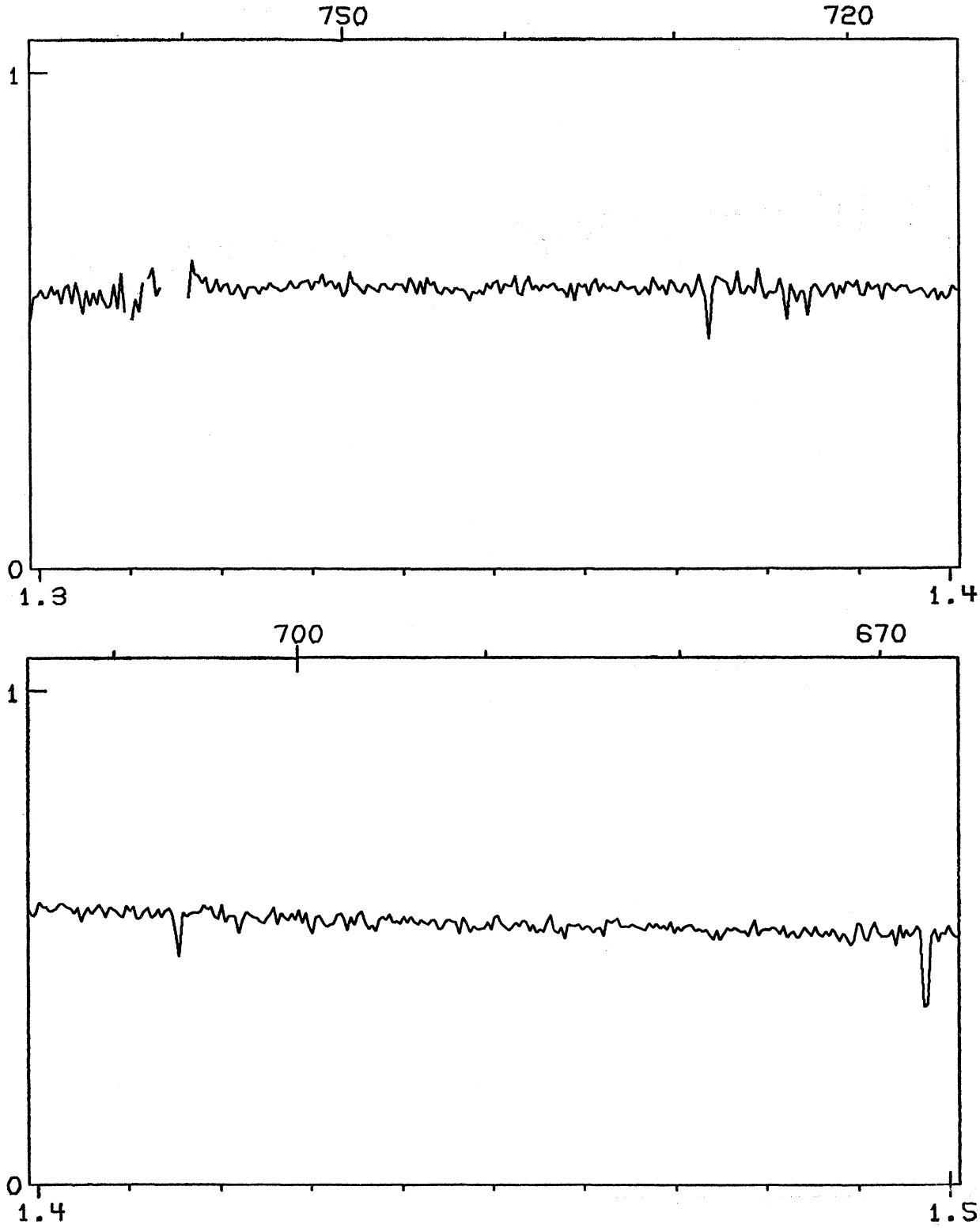

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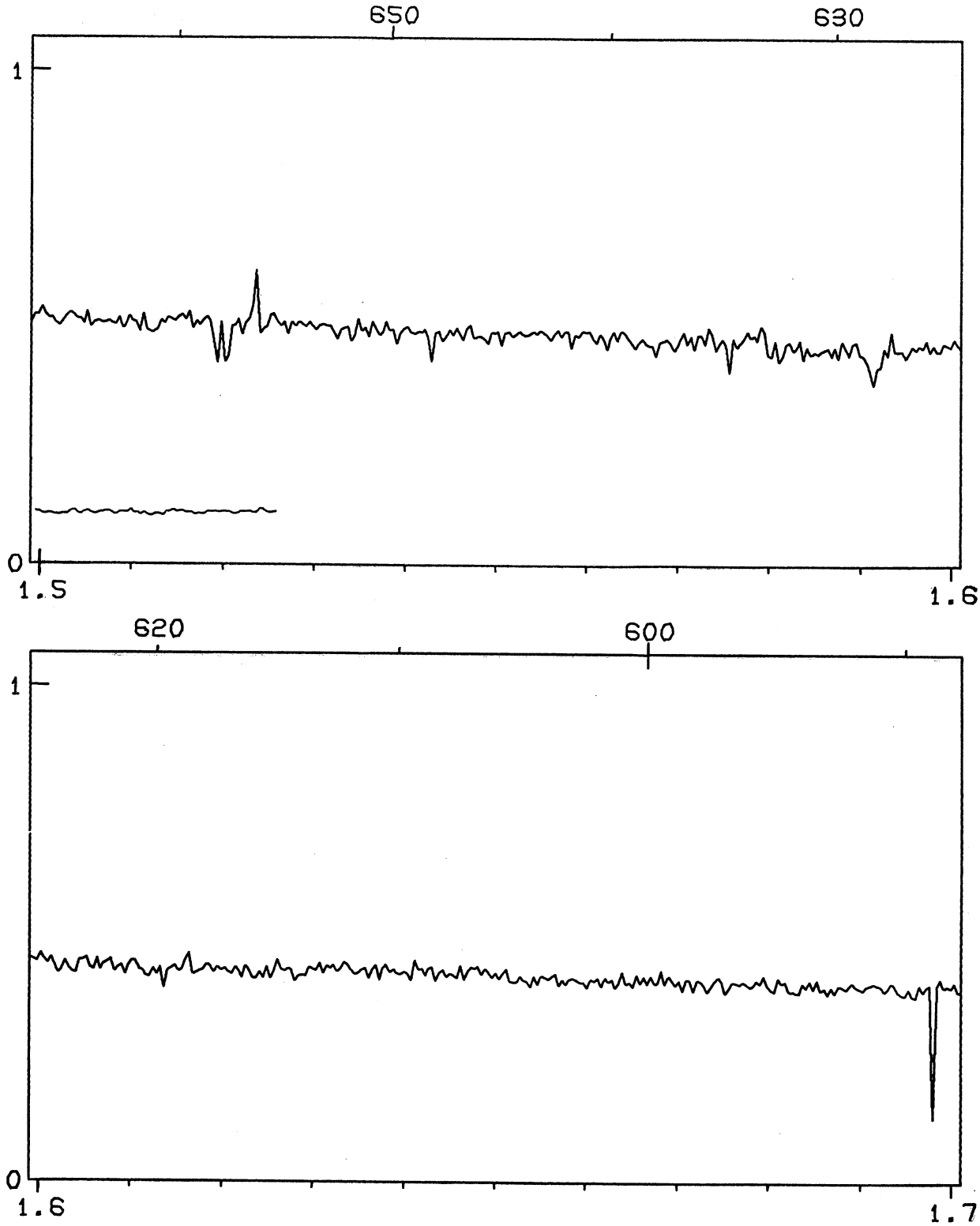

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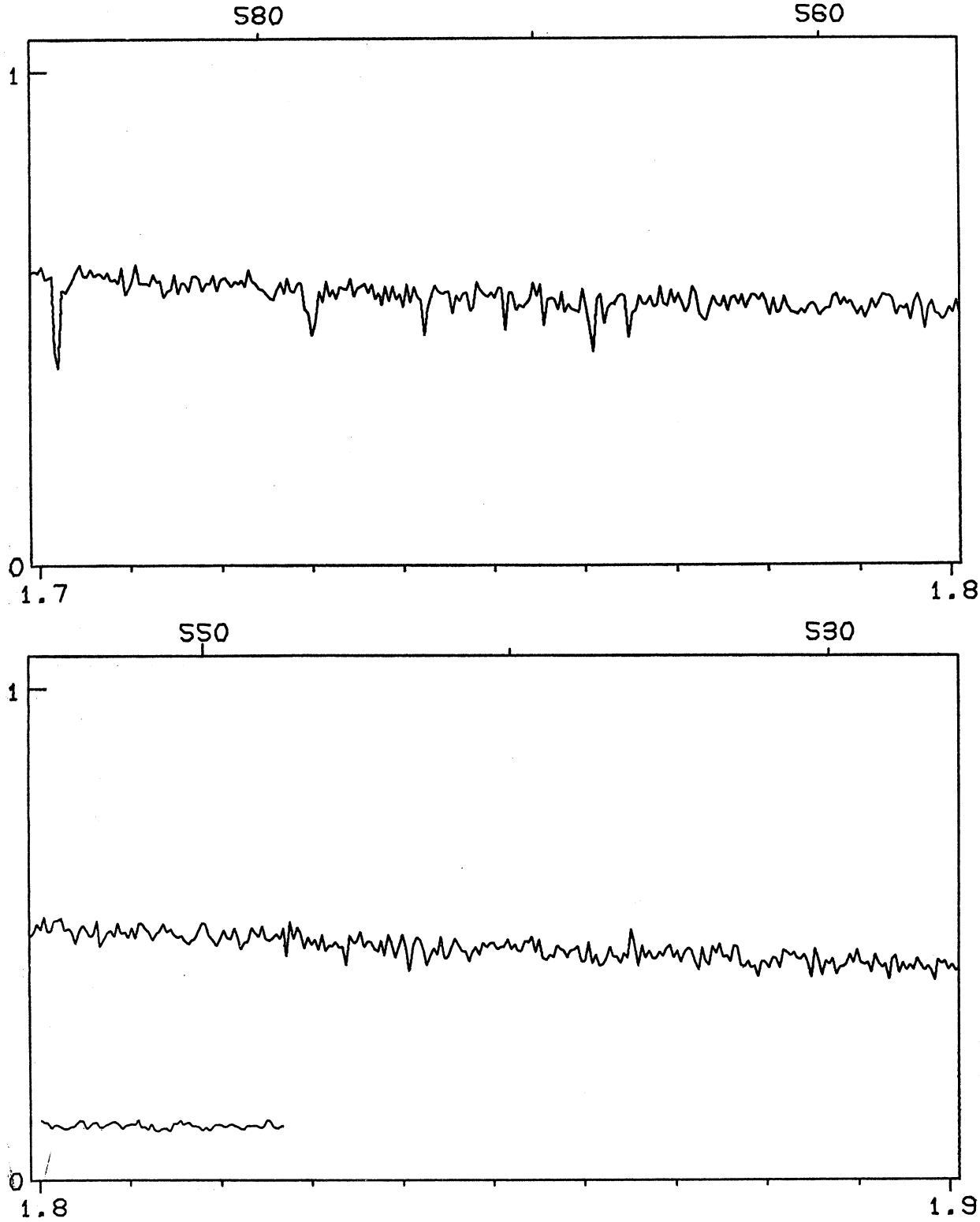

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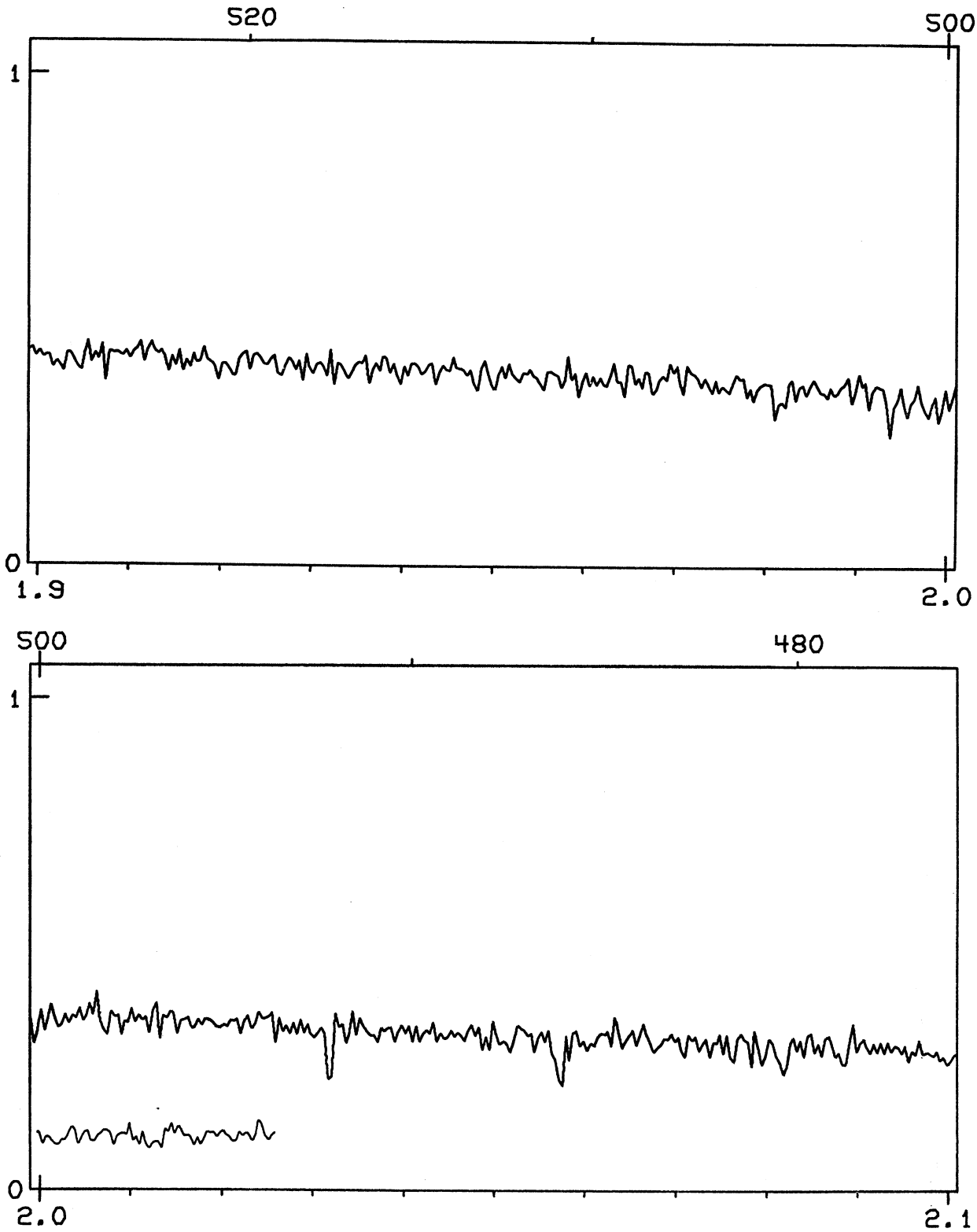

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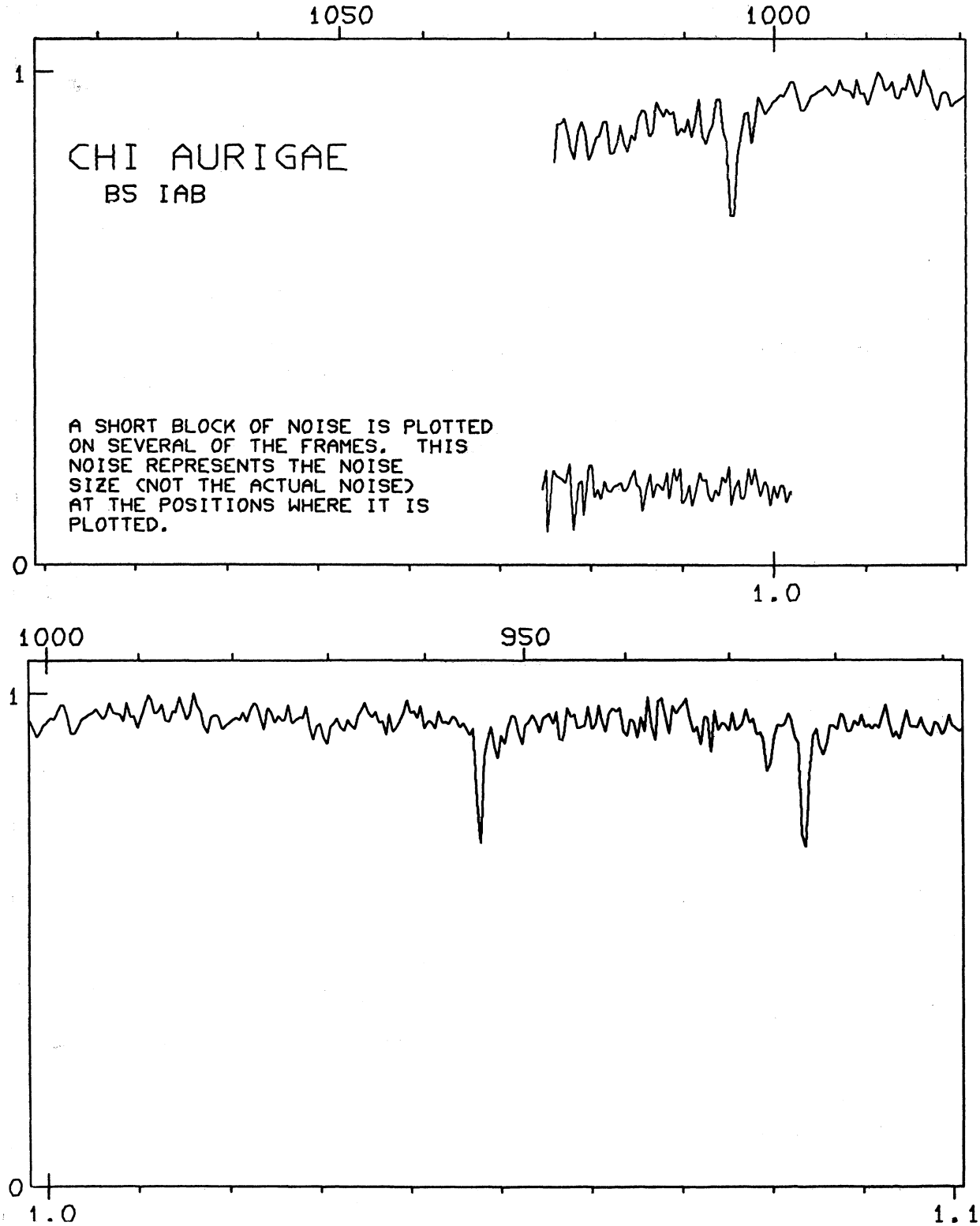
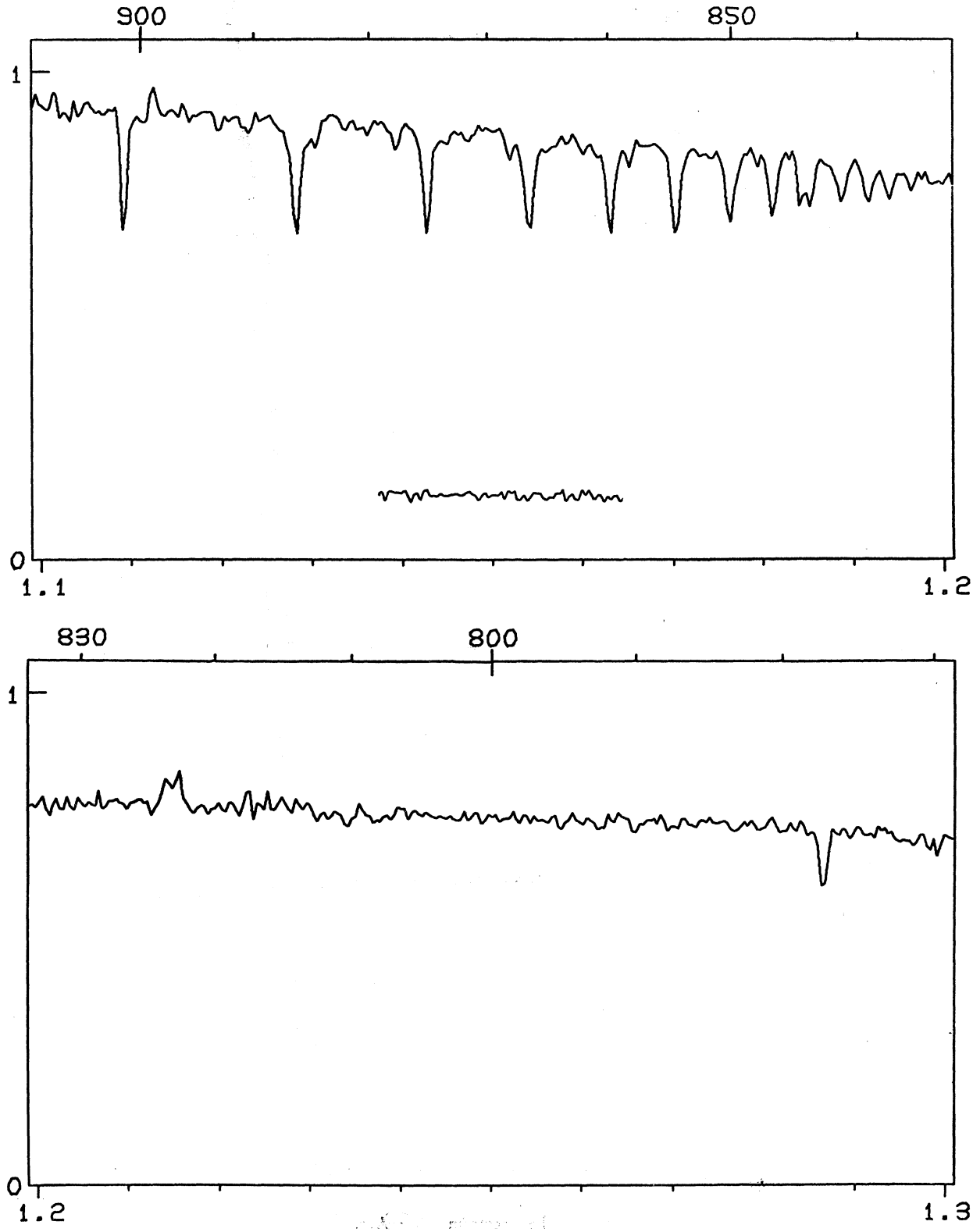


FIG. 8. The spectrum of χ Aur.



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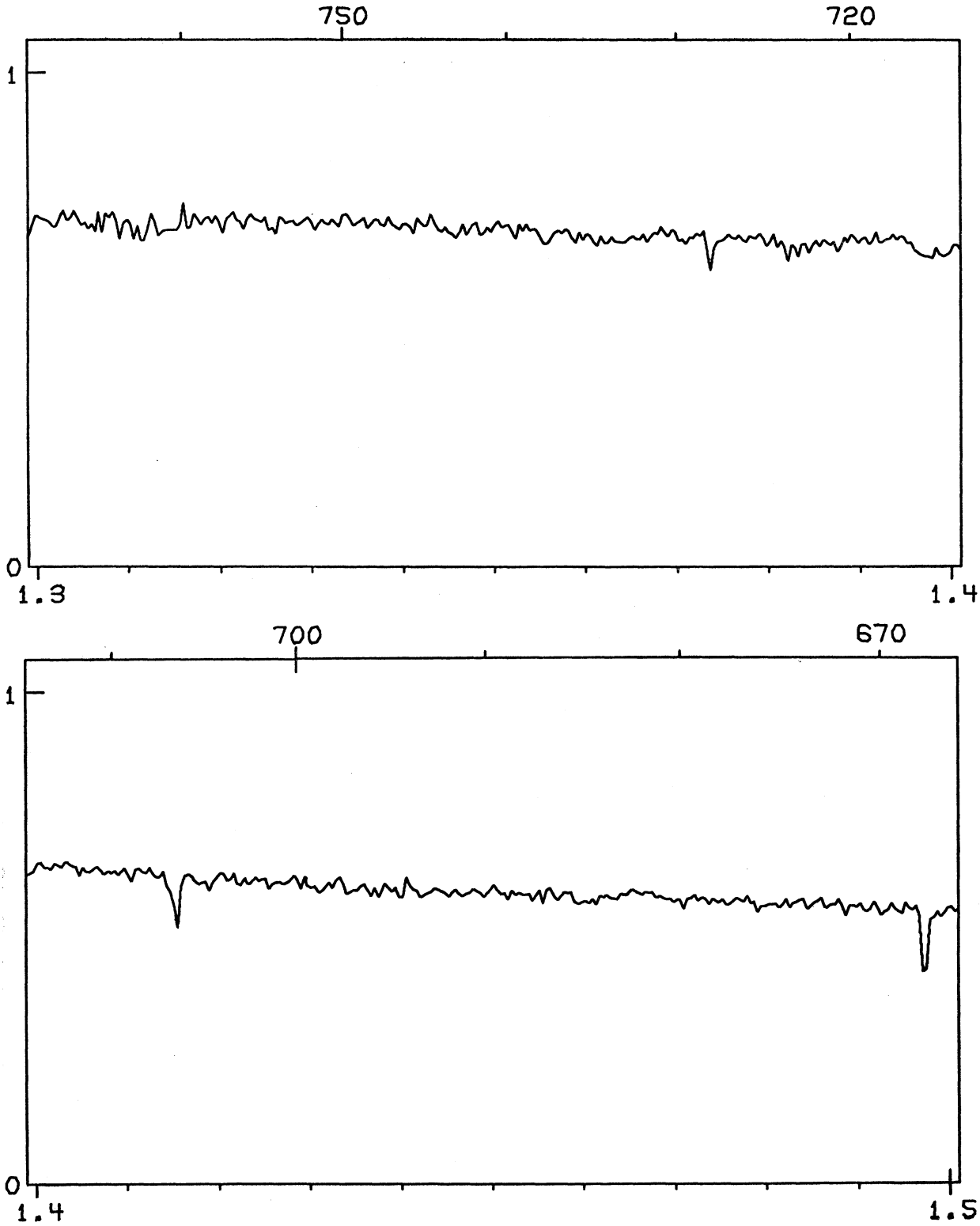

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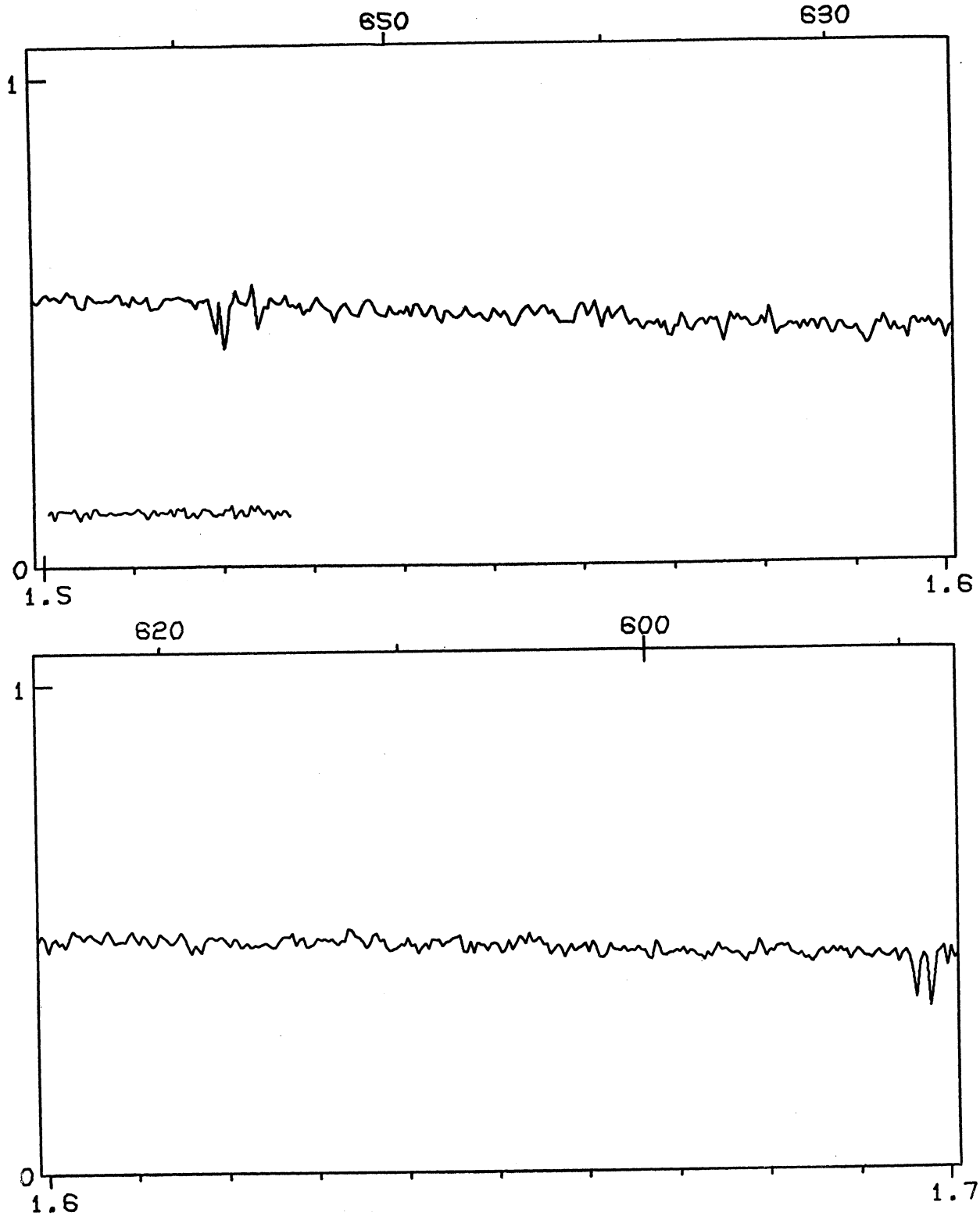

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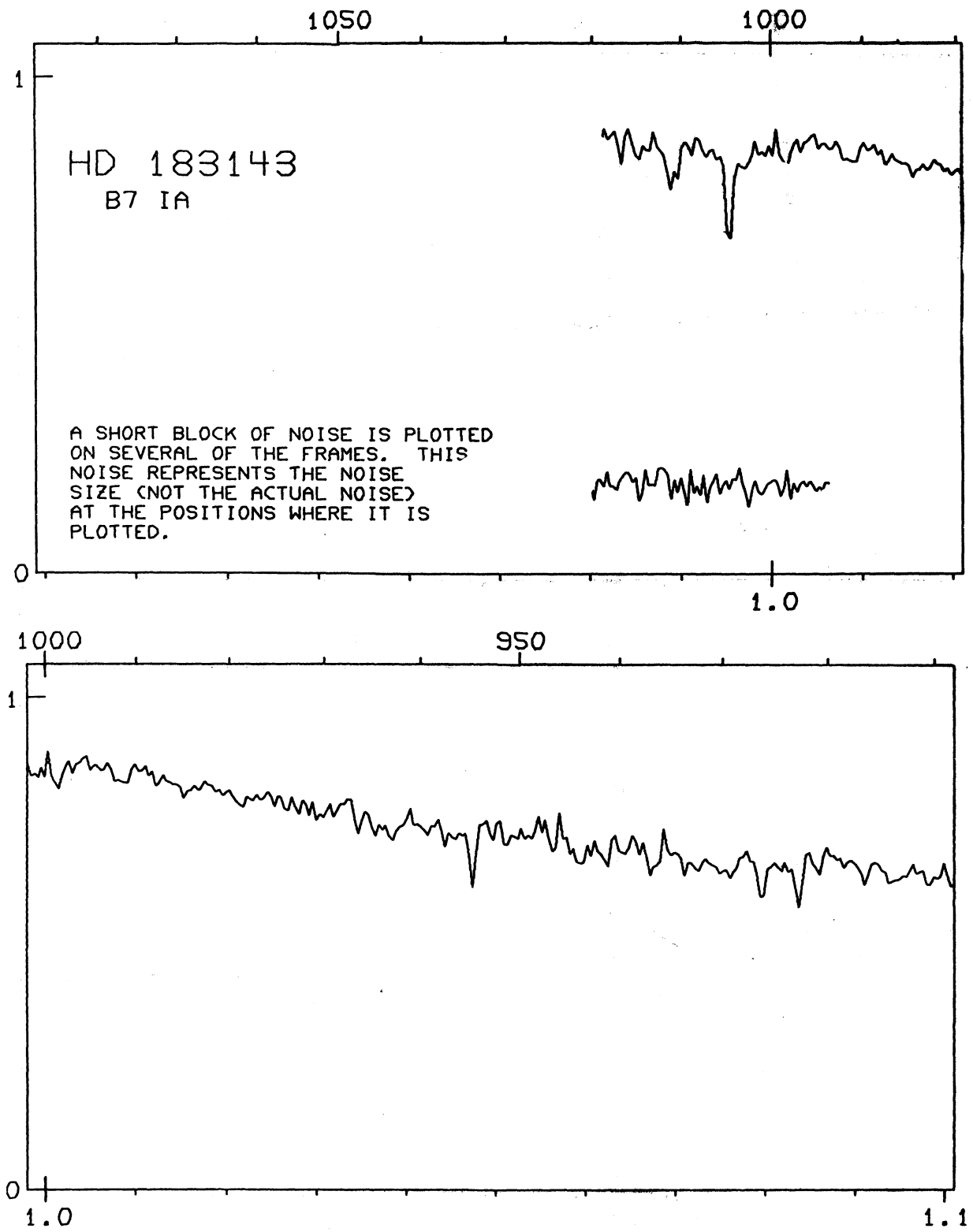
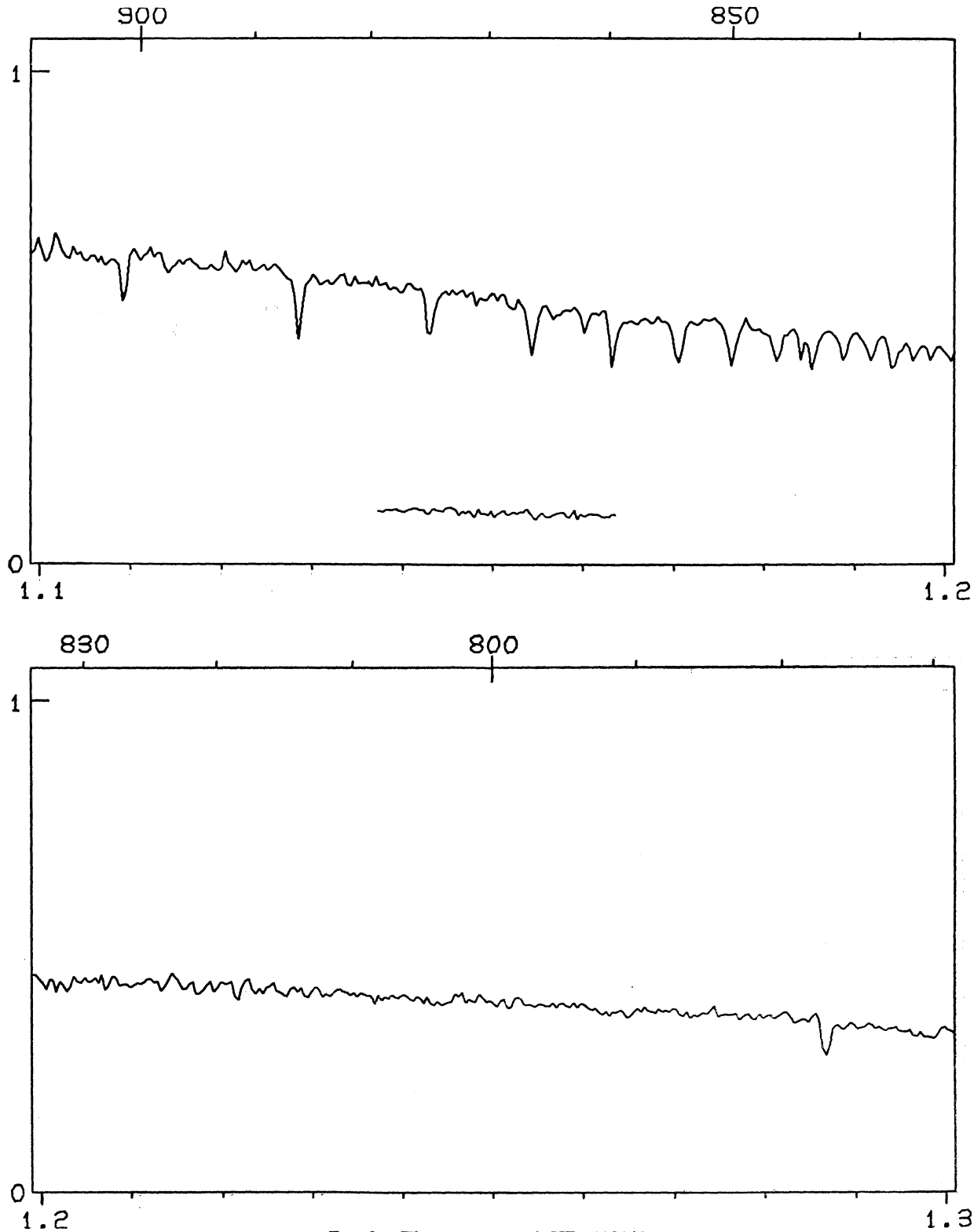


FIG. 9. The spectrum of HD 183143.



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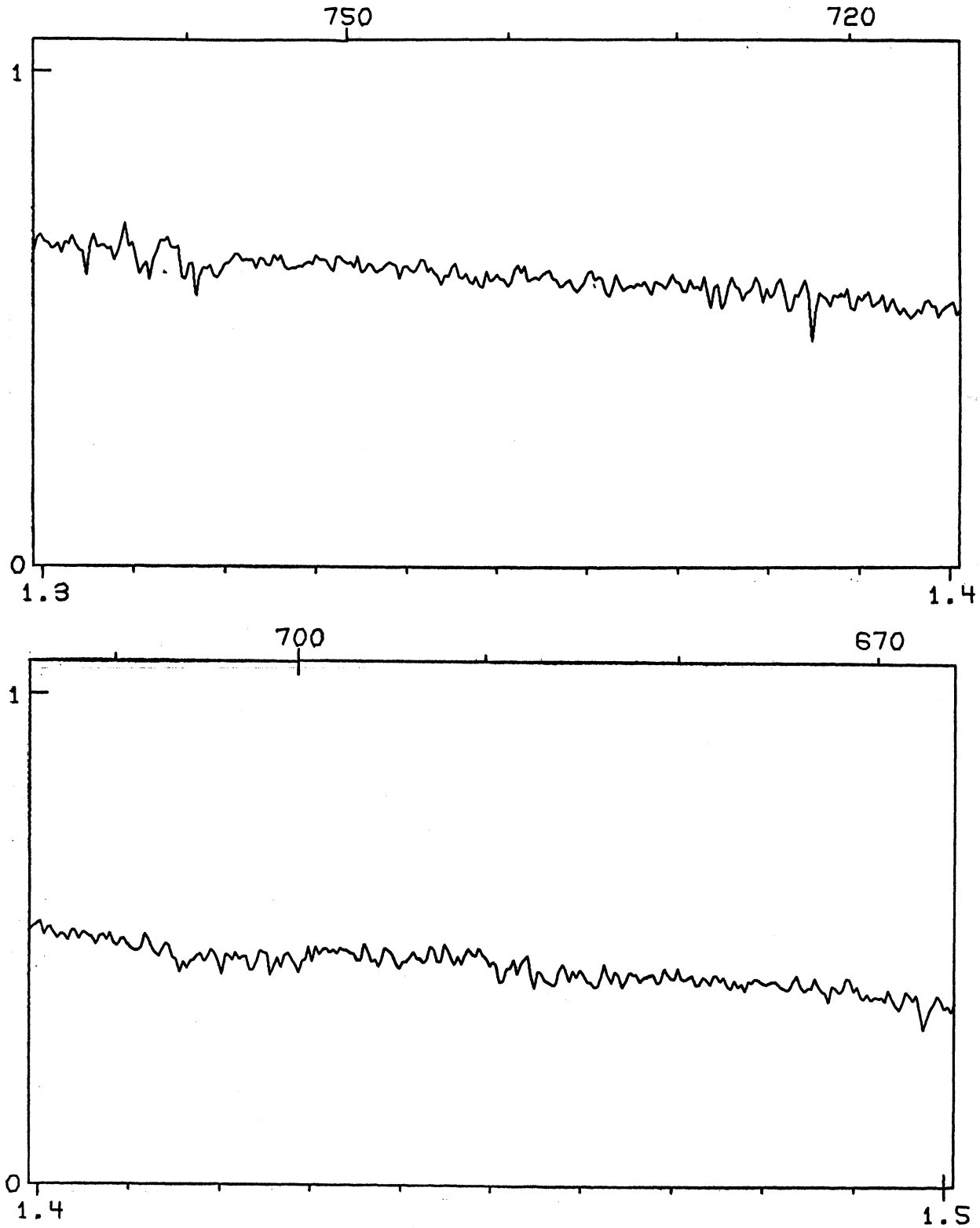

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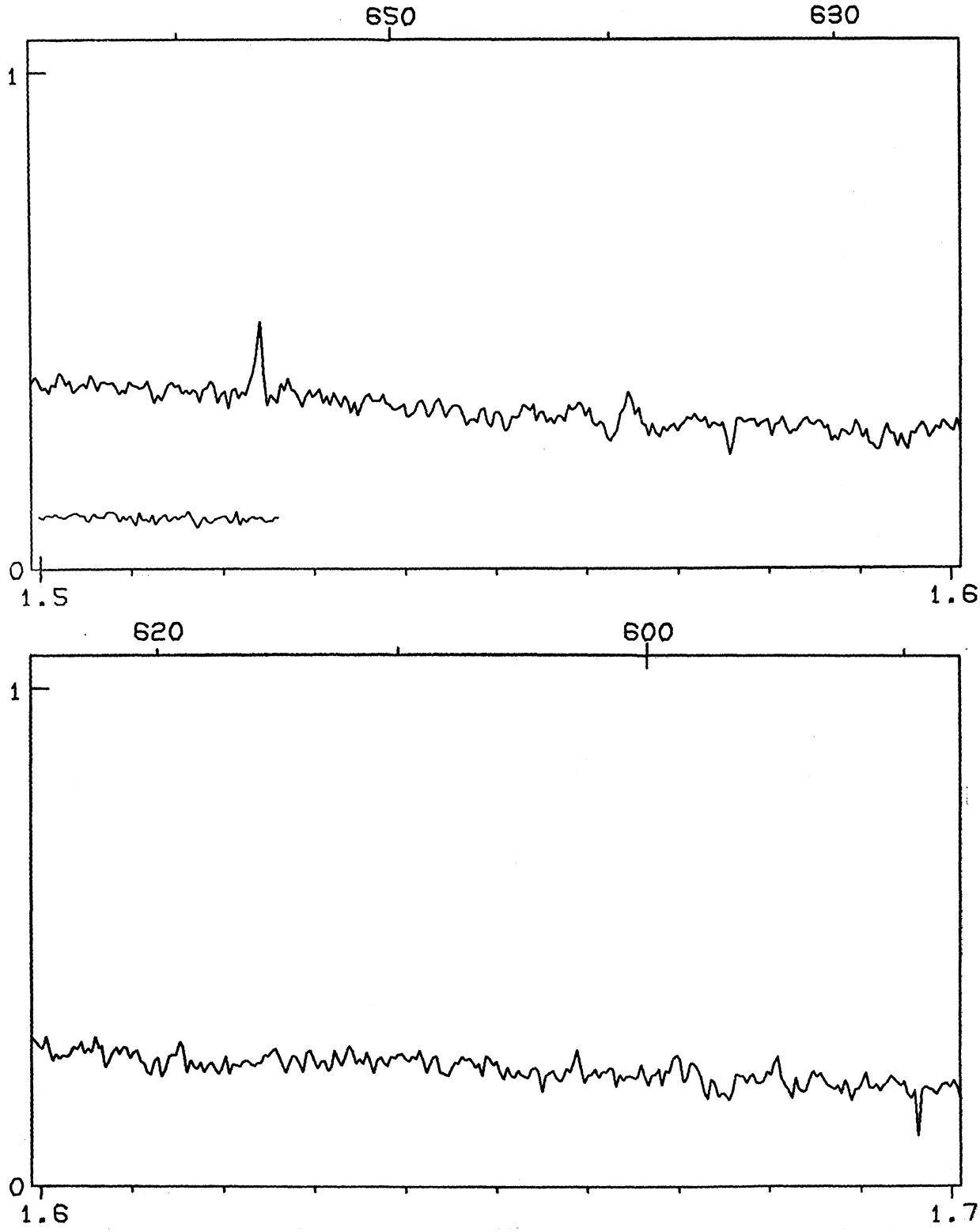

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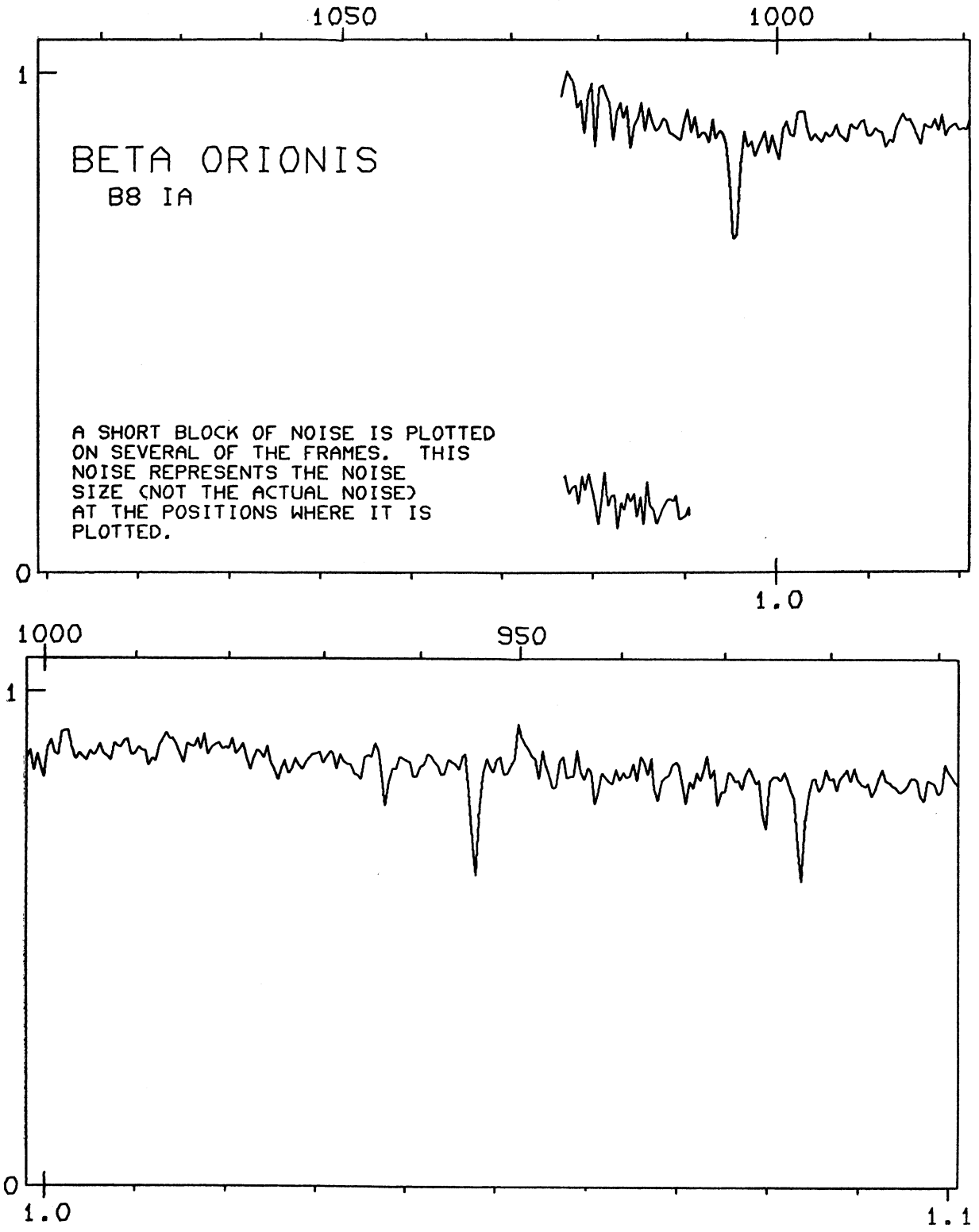
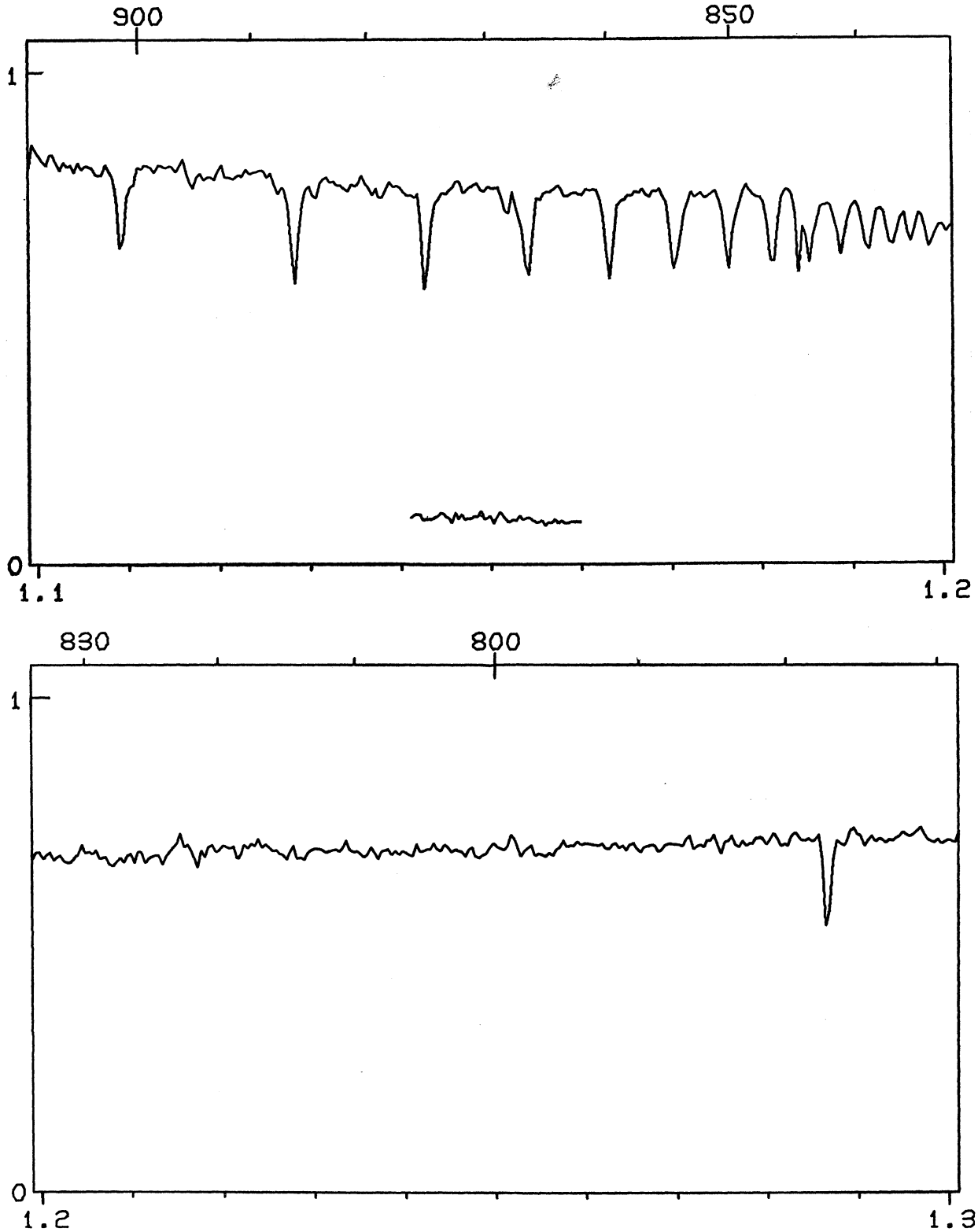


FIG. 10. The spectrum of β Ori.



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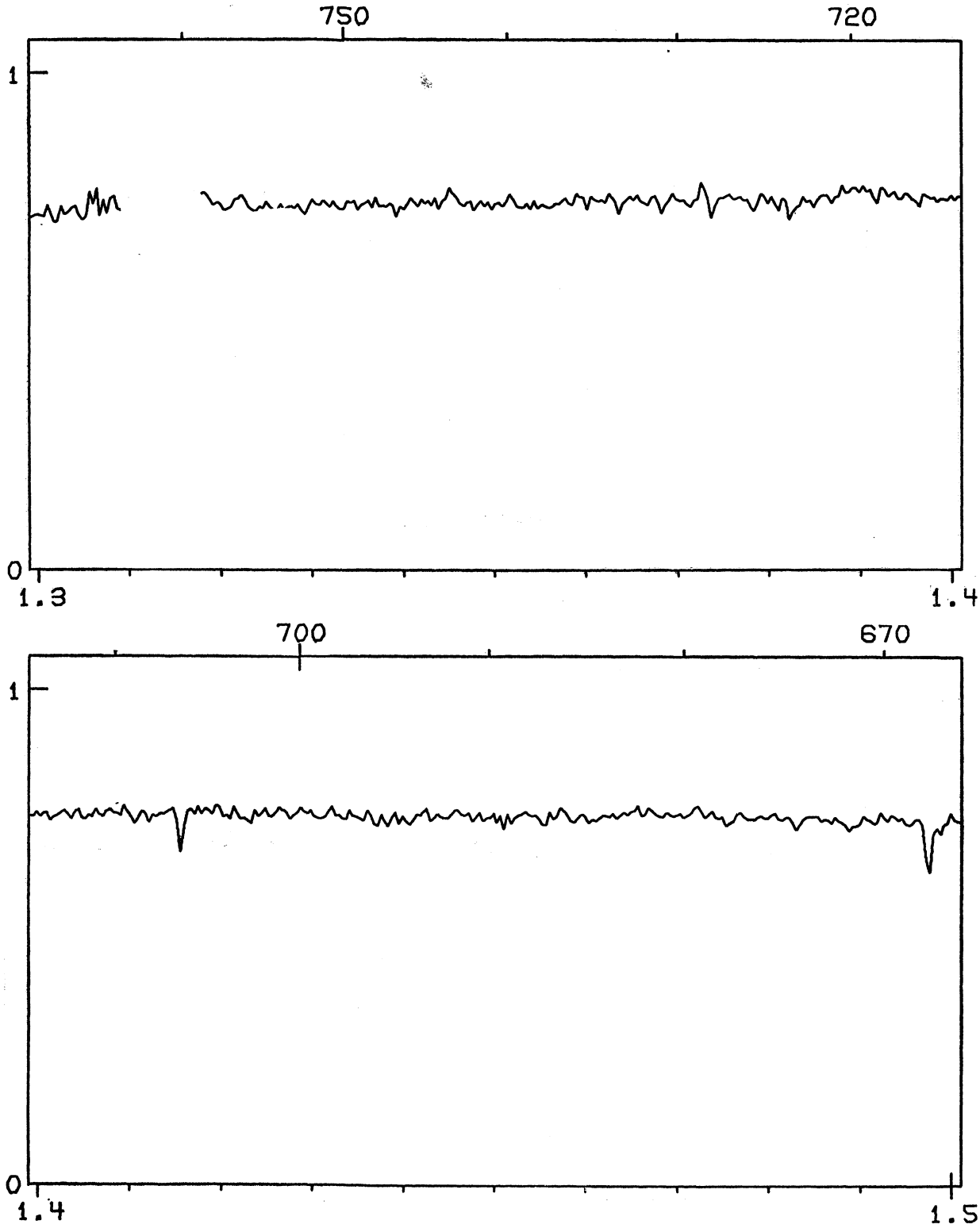

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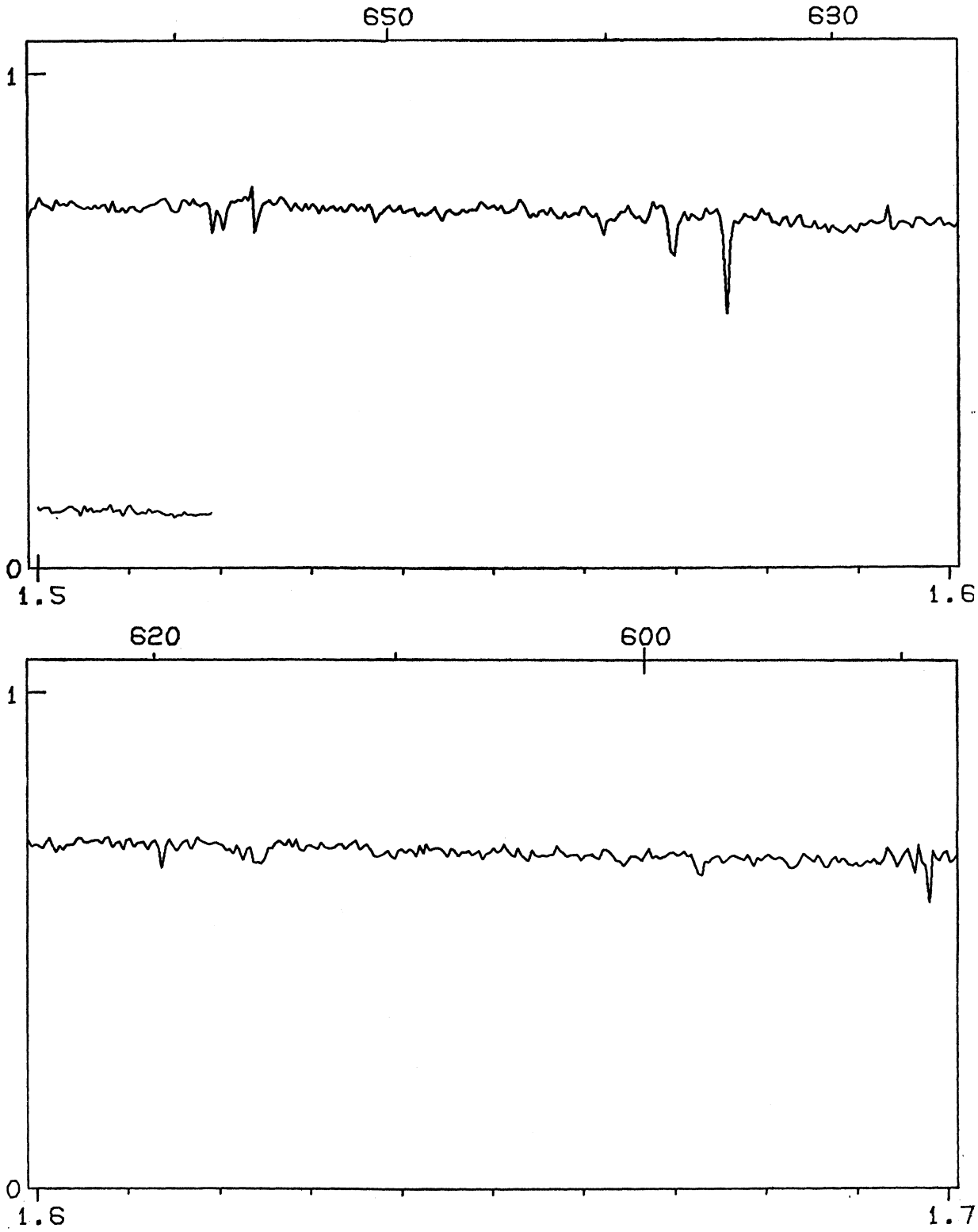

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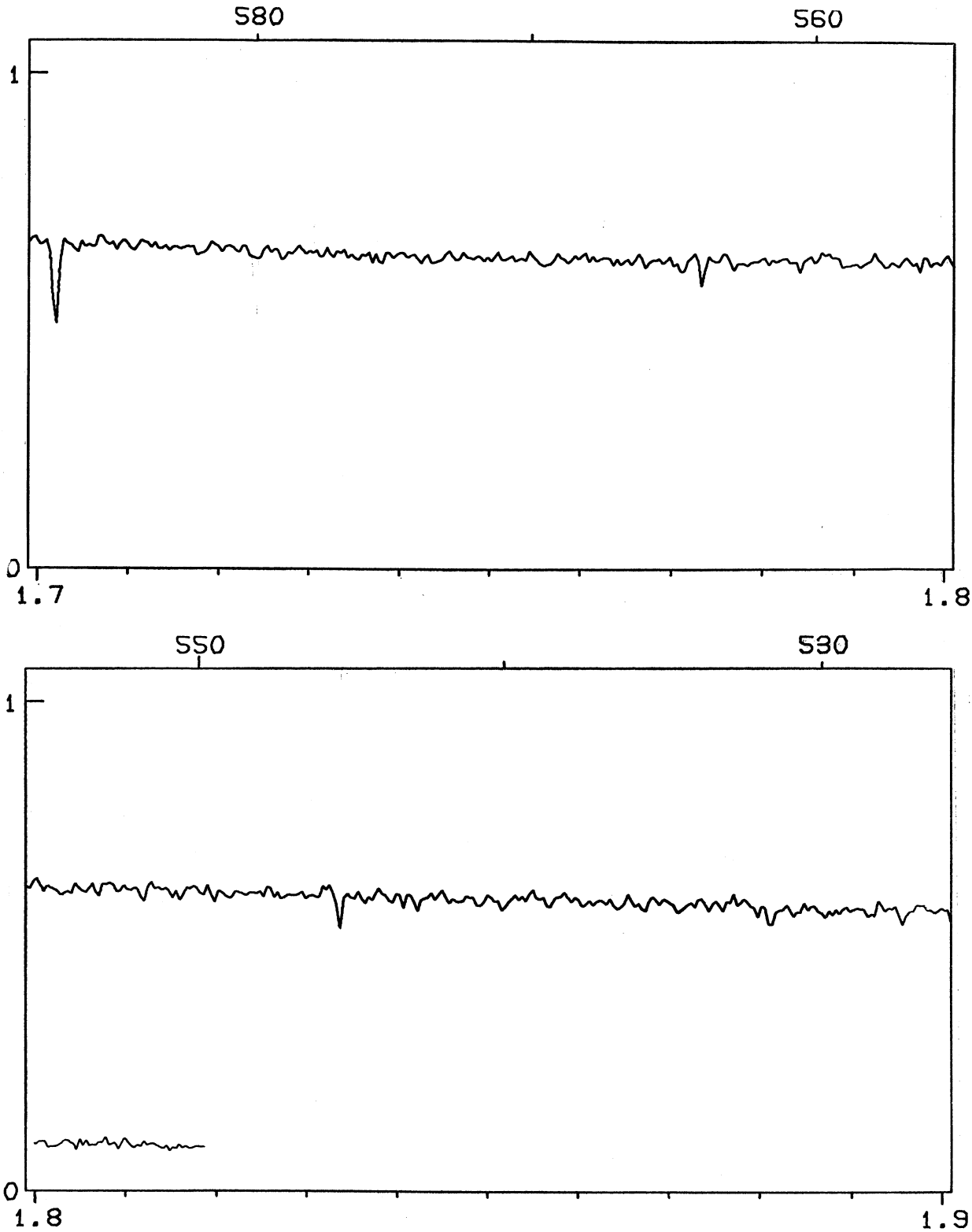

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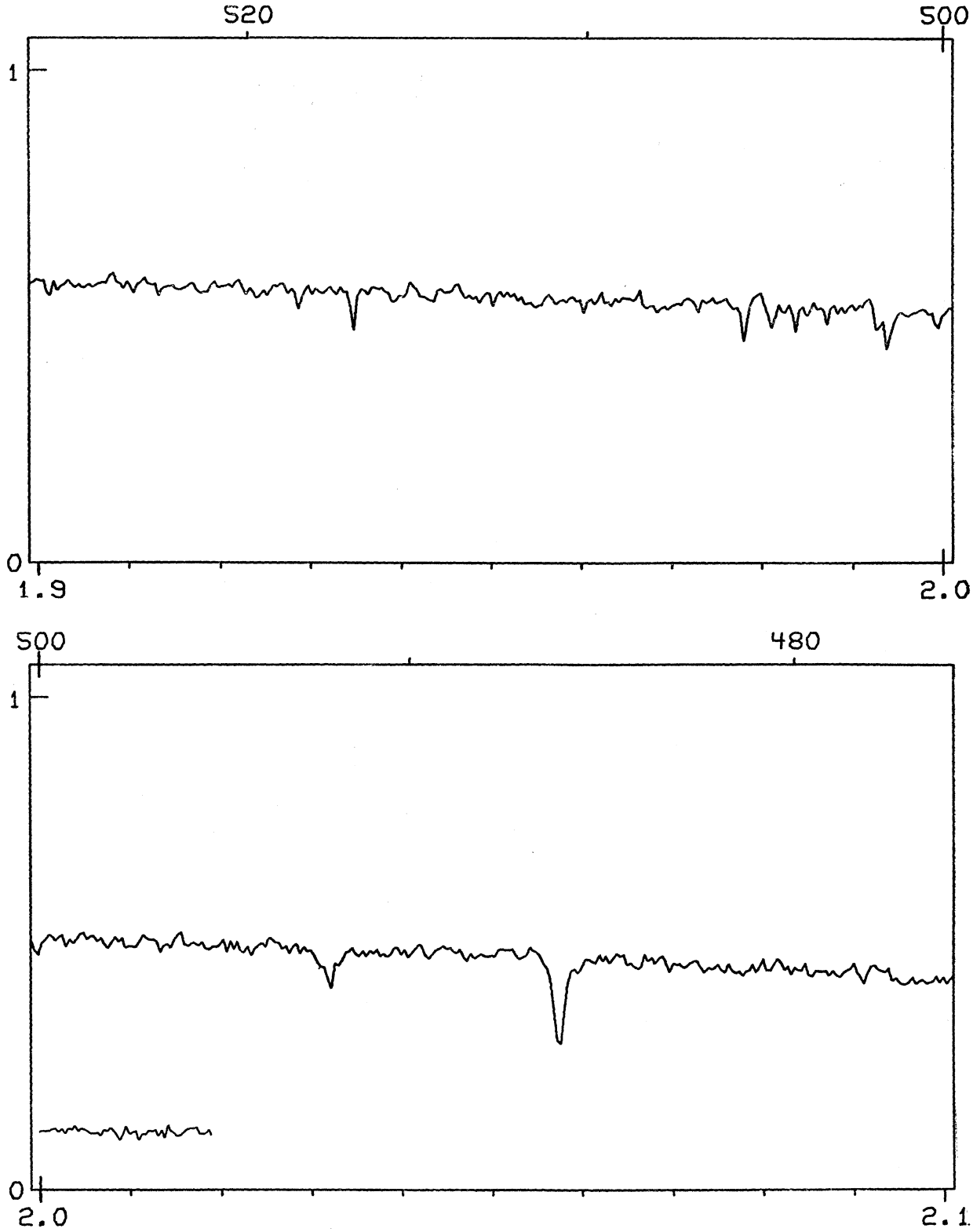

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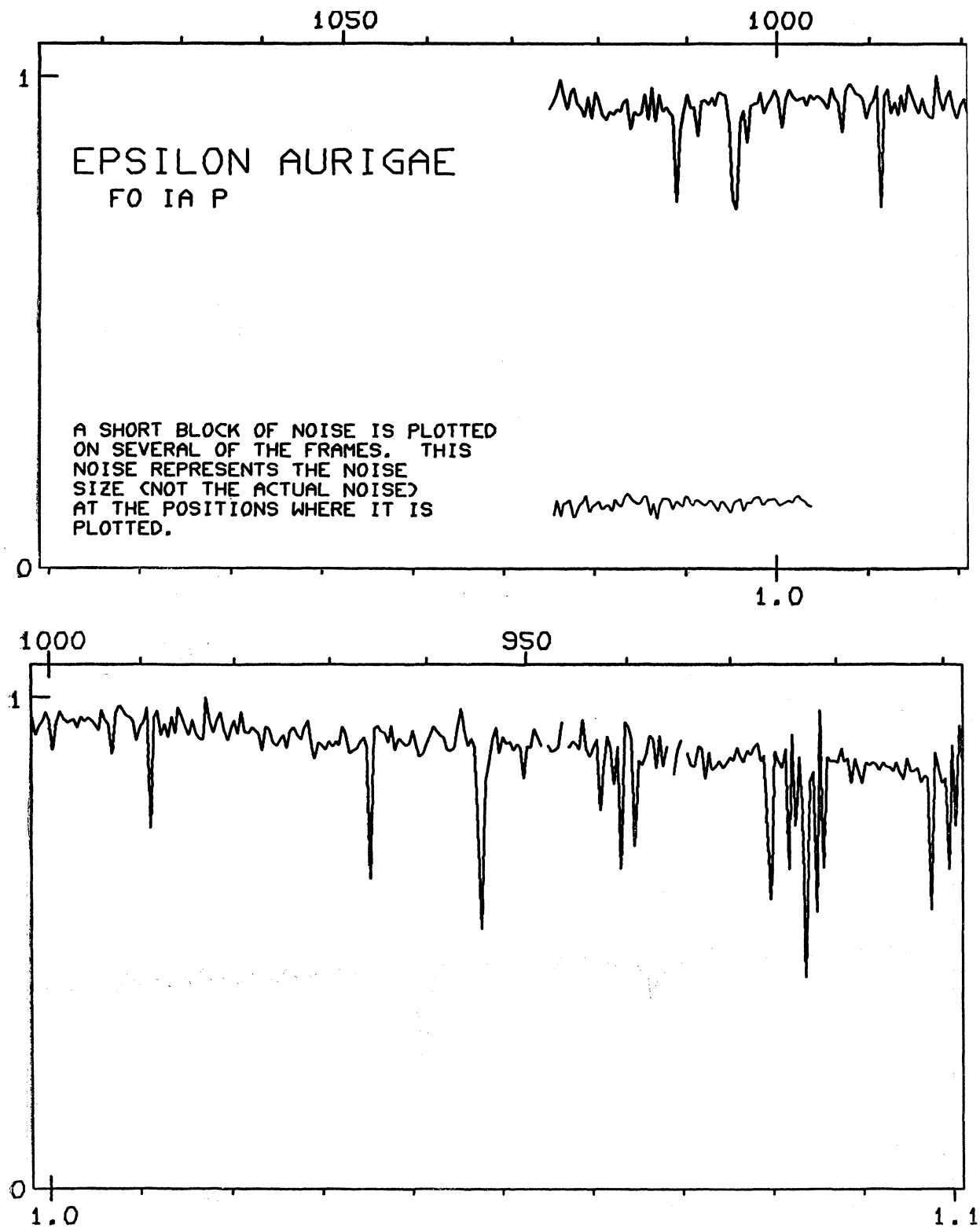
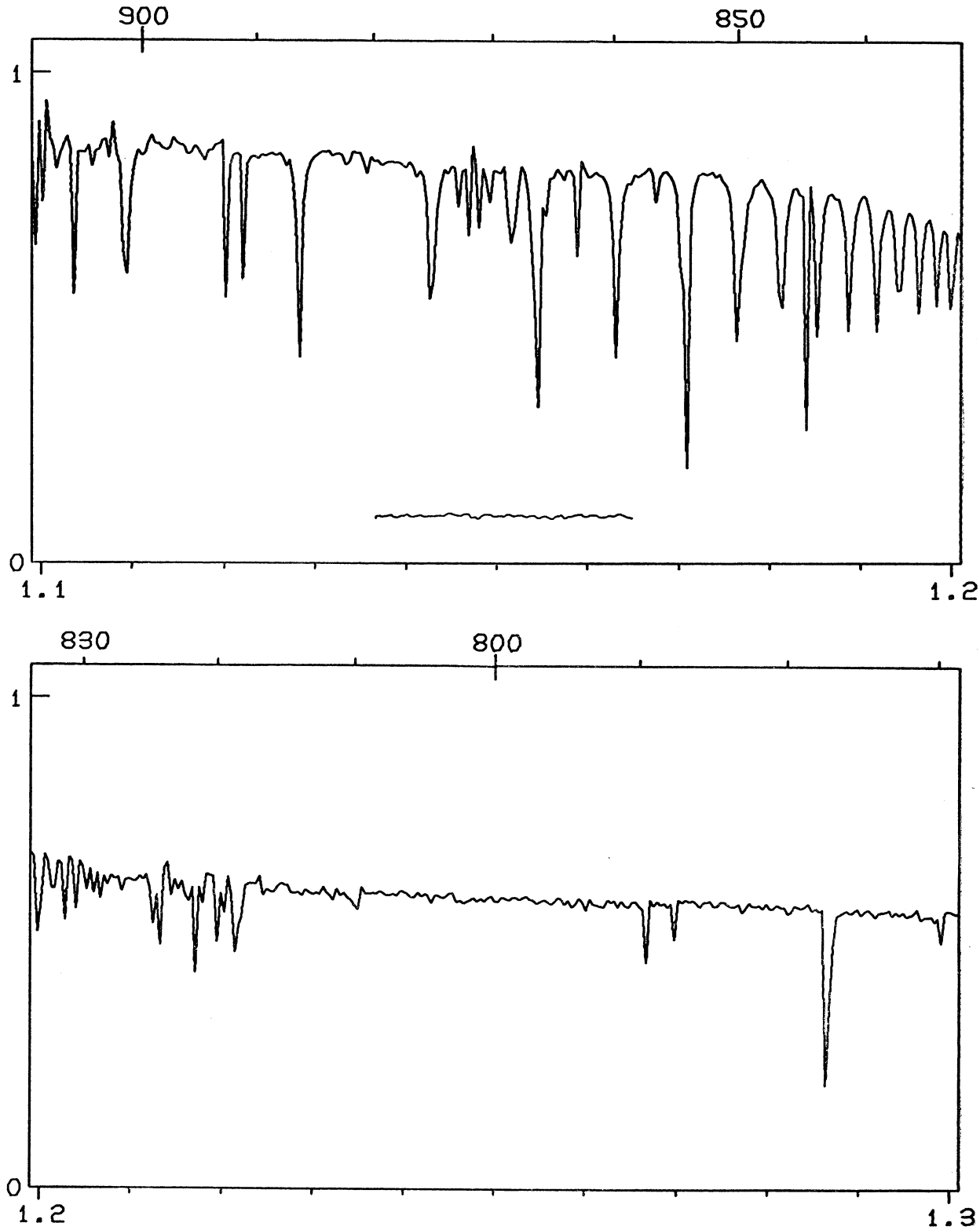


FIG. 11. The spectrum of ϵ Aur.



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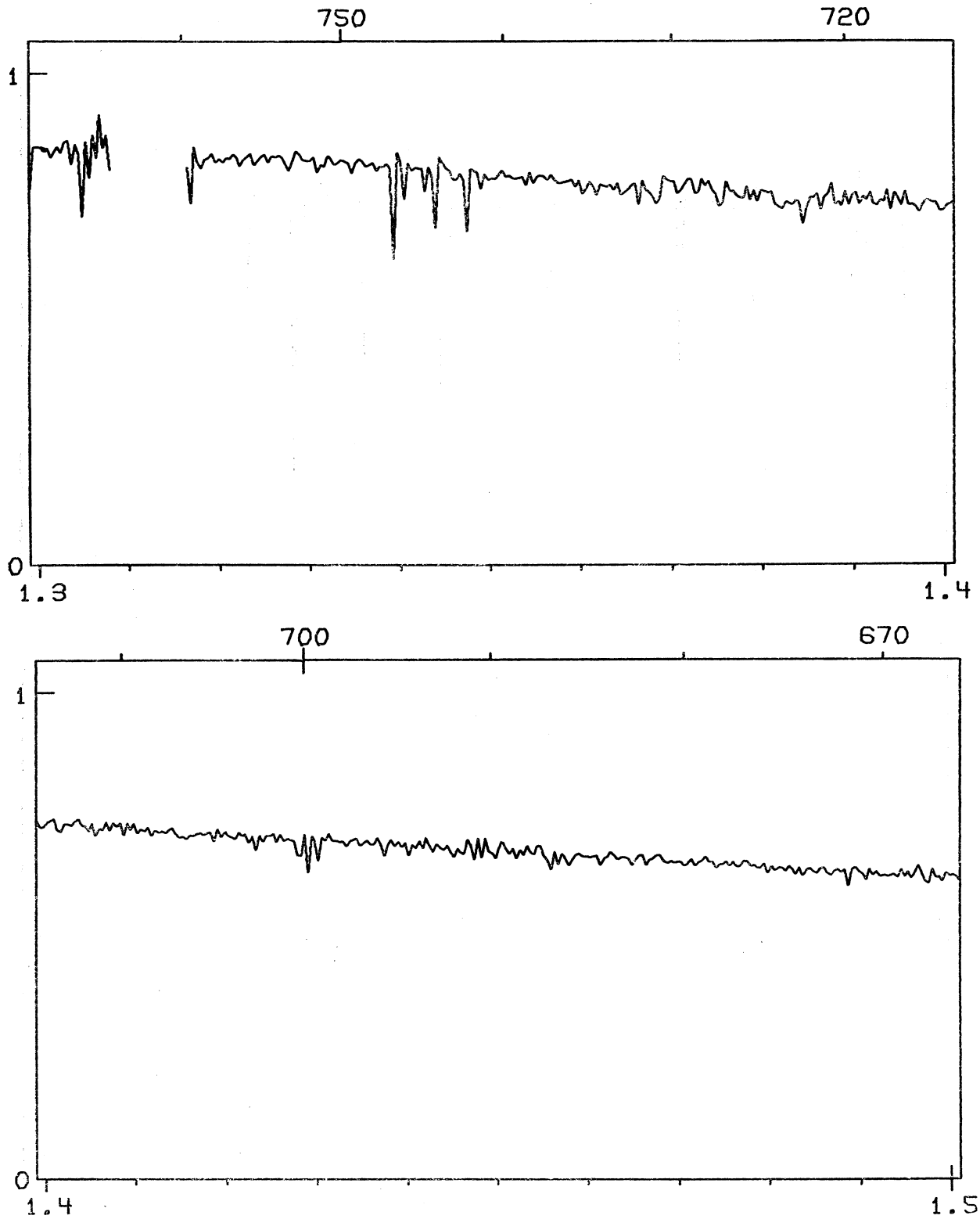


FIG. 11. The spectrum of ε Aur.

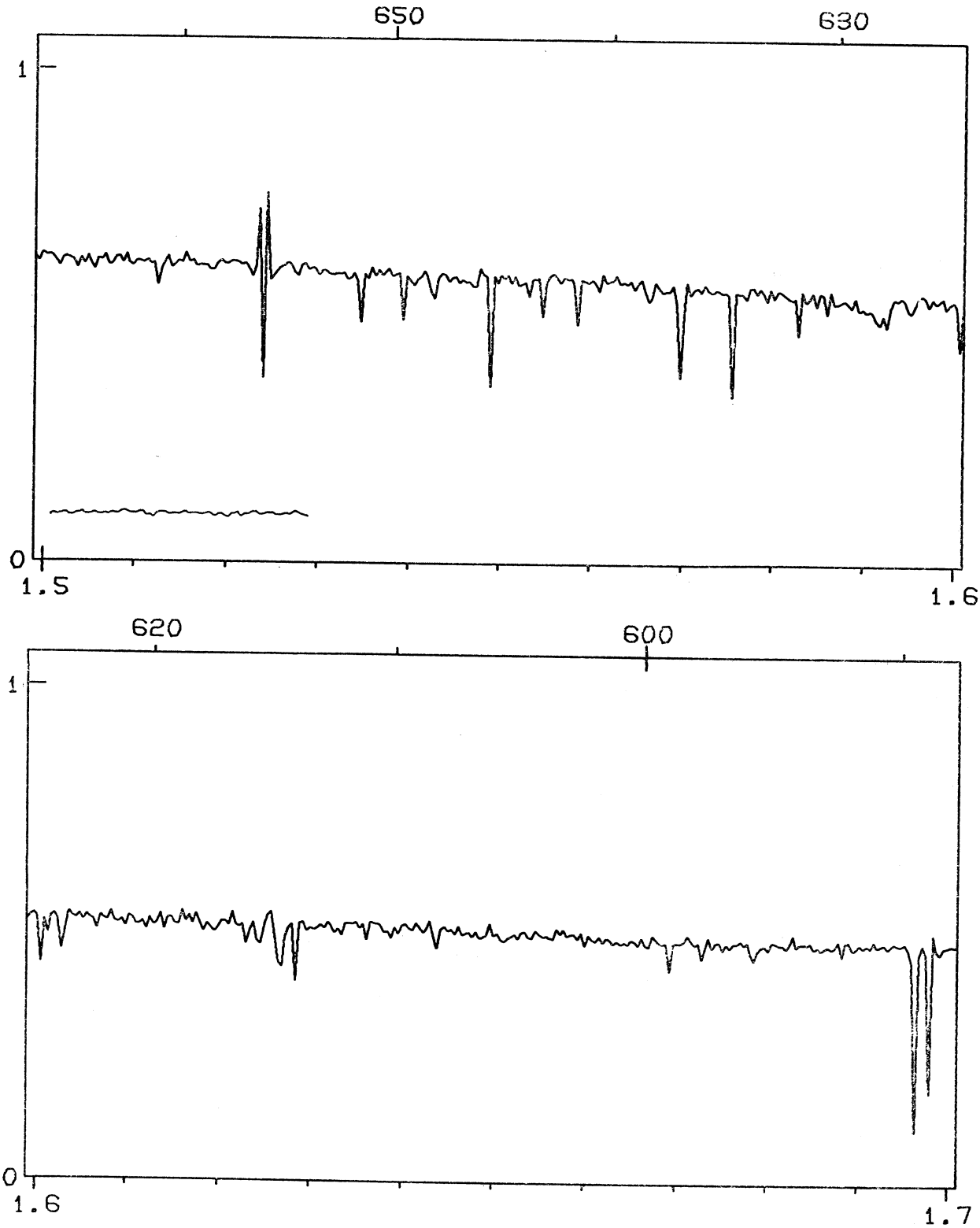


FIG. 11. The spectrum of ϵ Aur.

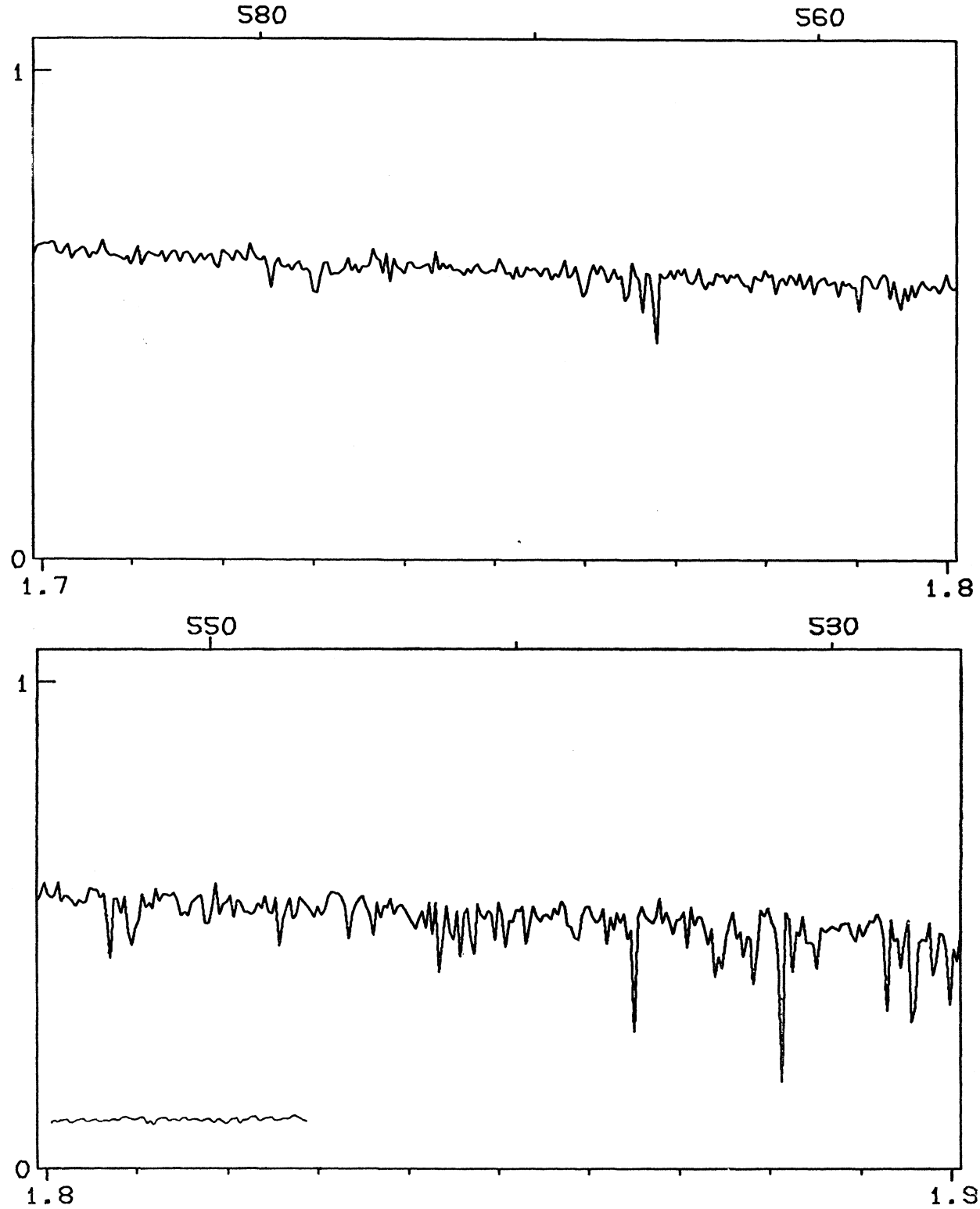


FIG. 11. The spectrum of ϵ Aur.

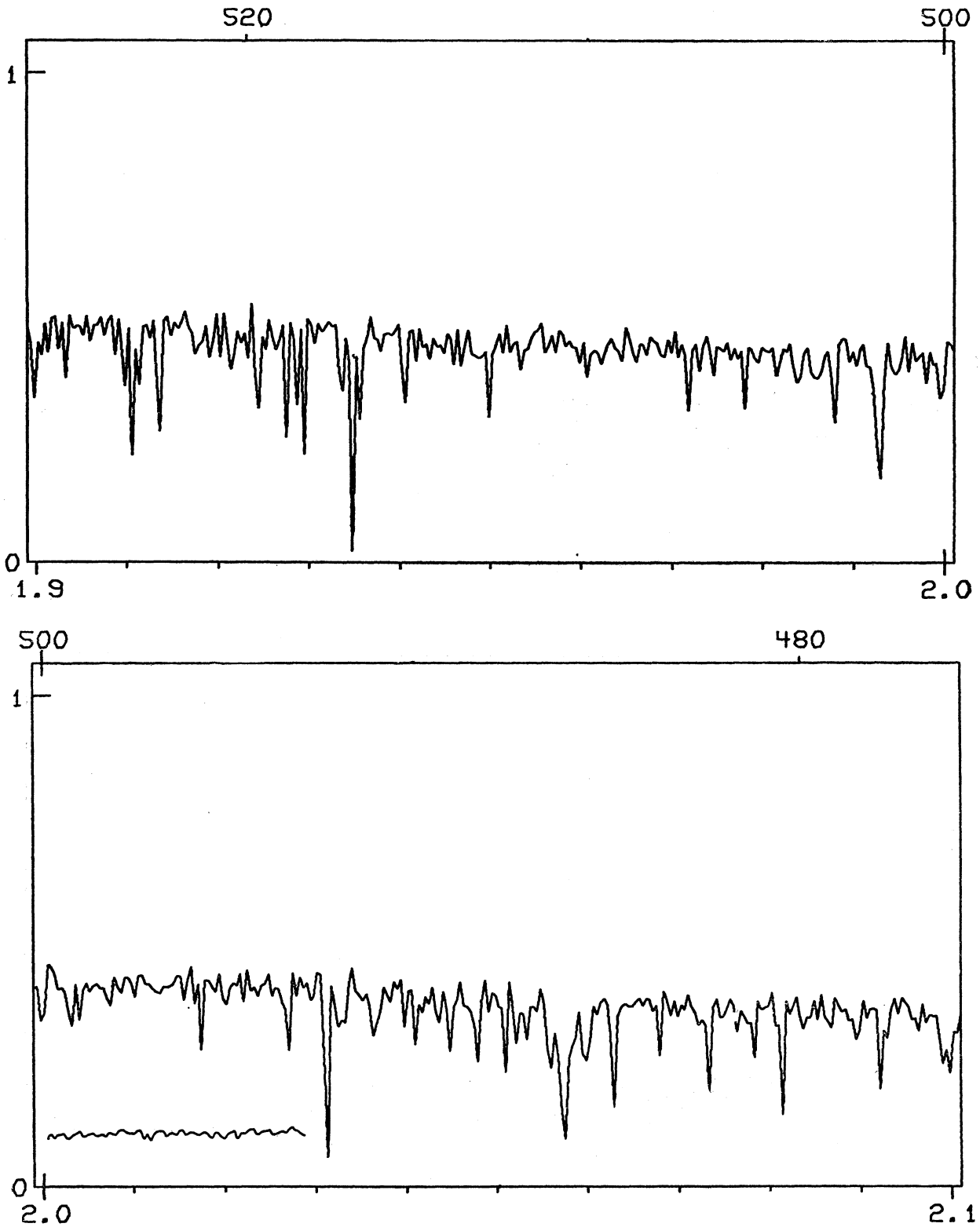


FIG. 11. The spectrum of ϵ Aur.

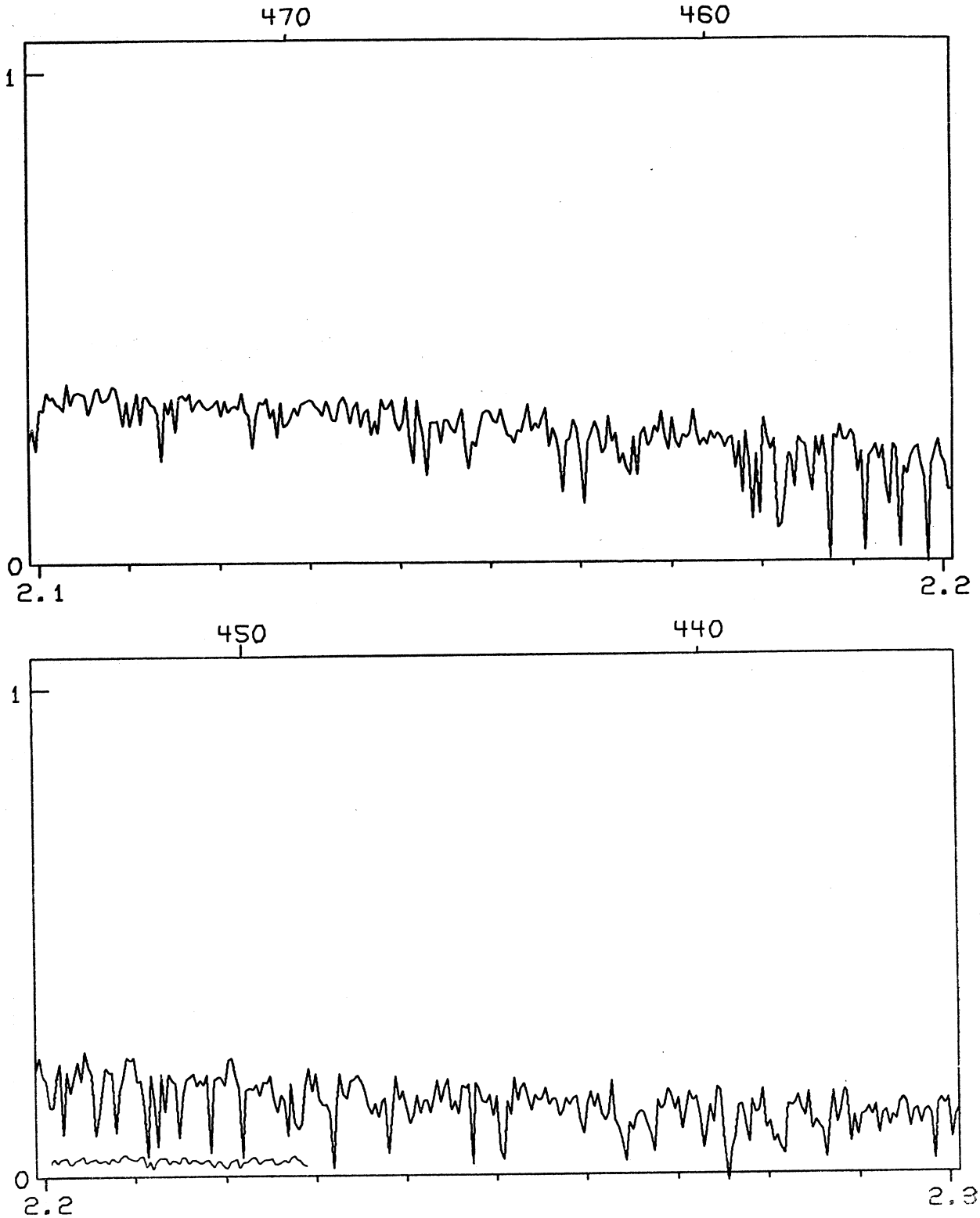


FIG. 11. The spectrum of ϵ Aur.

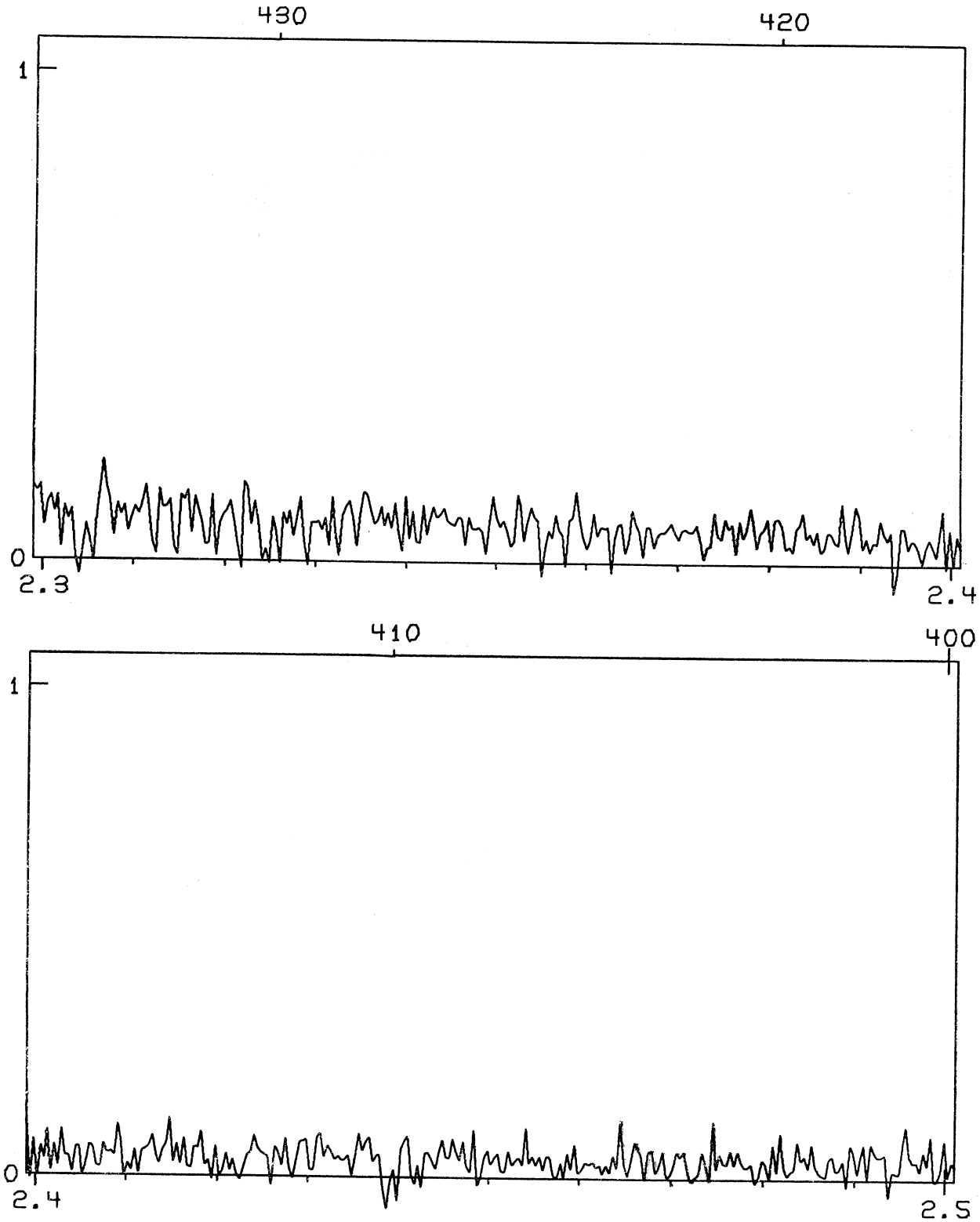


FIG. 11. The spectrum of ε Aur.

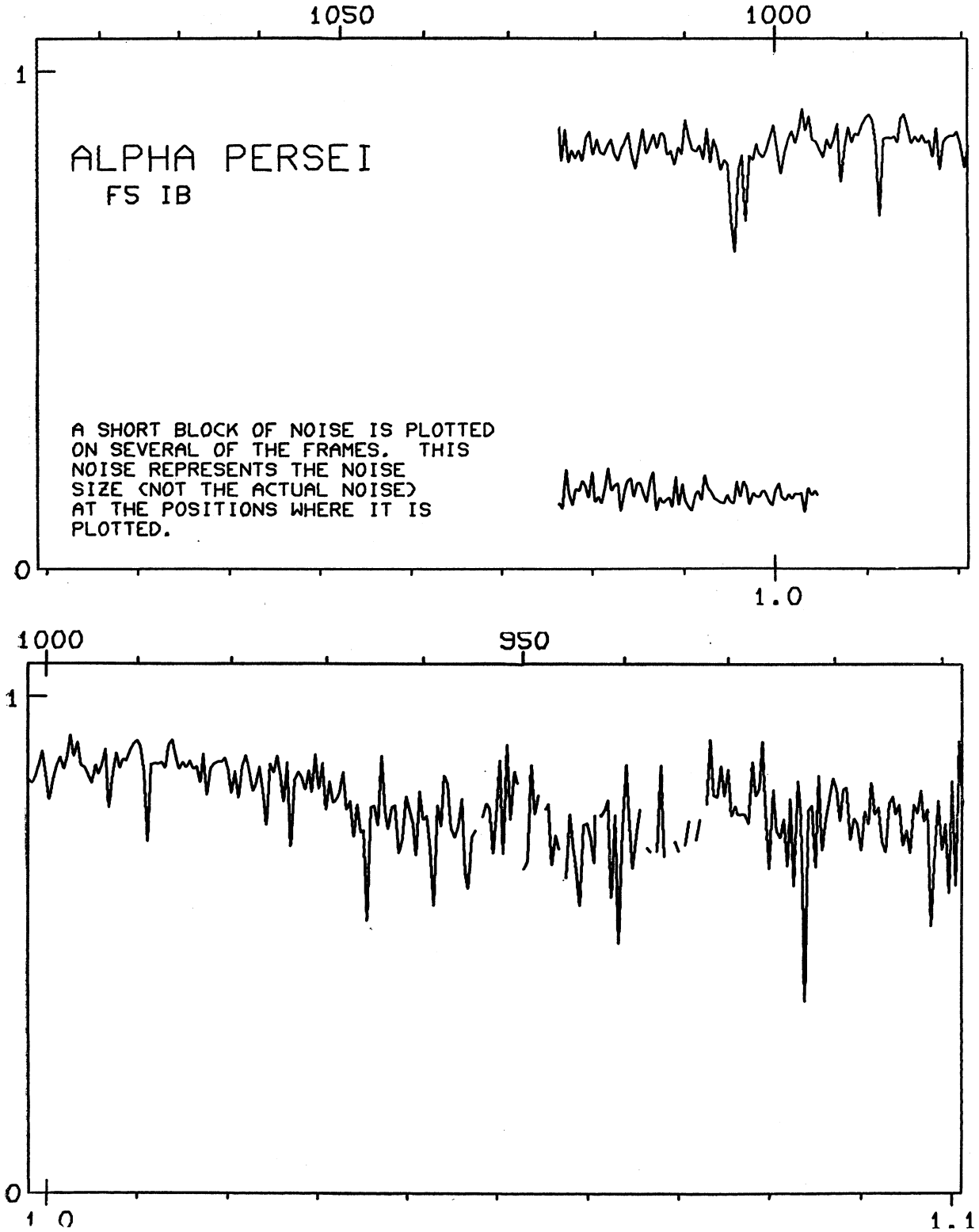


FIG. 12. The spectrum of α Per.

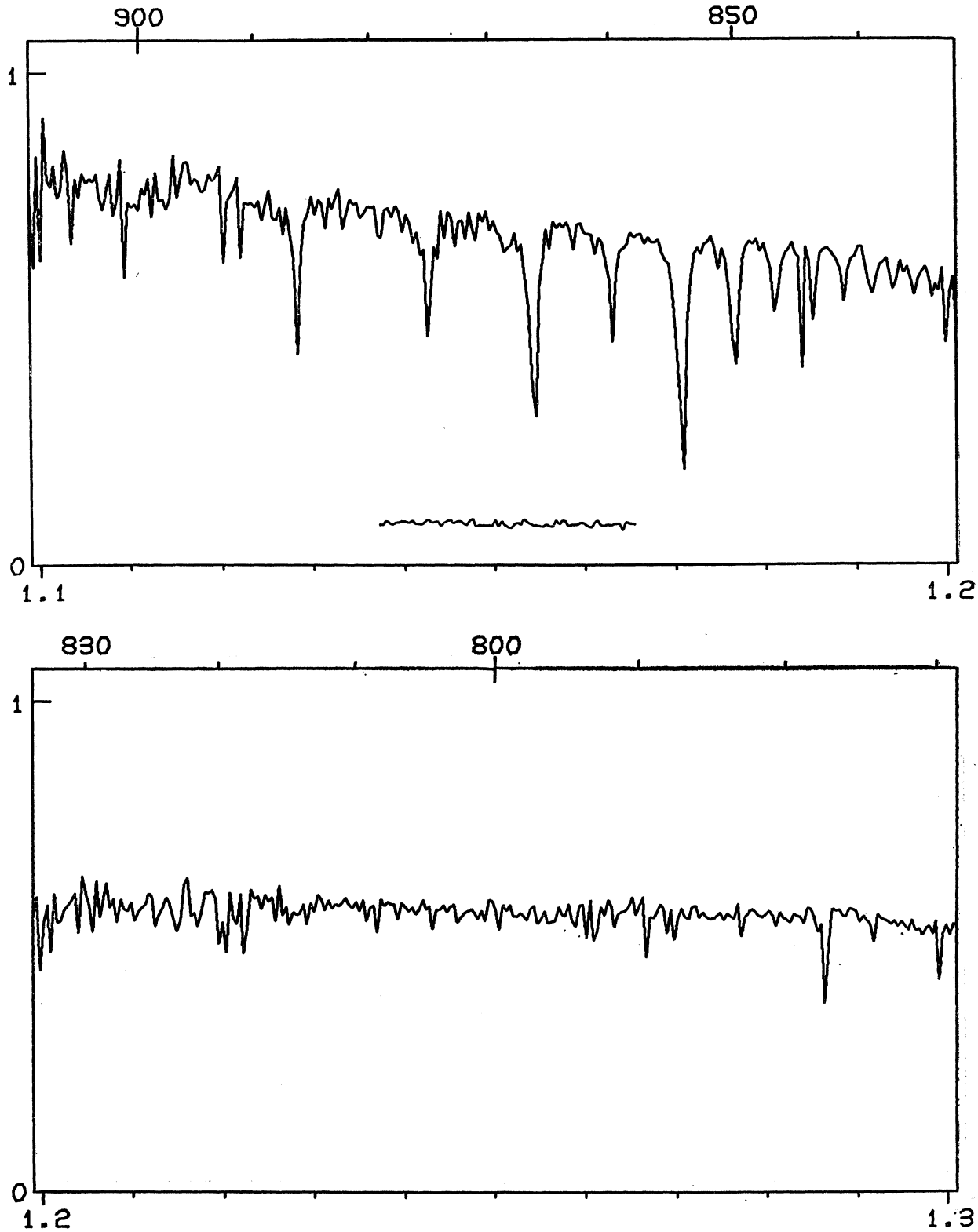


FIG. 12. The spectrum of α Per.

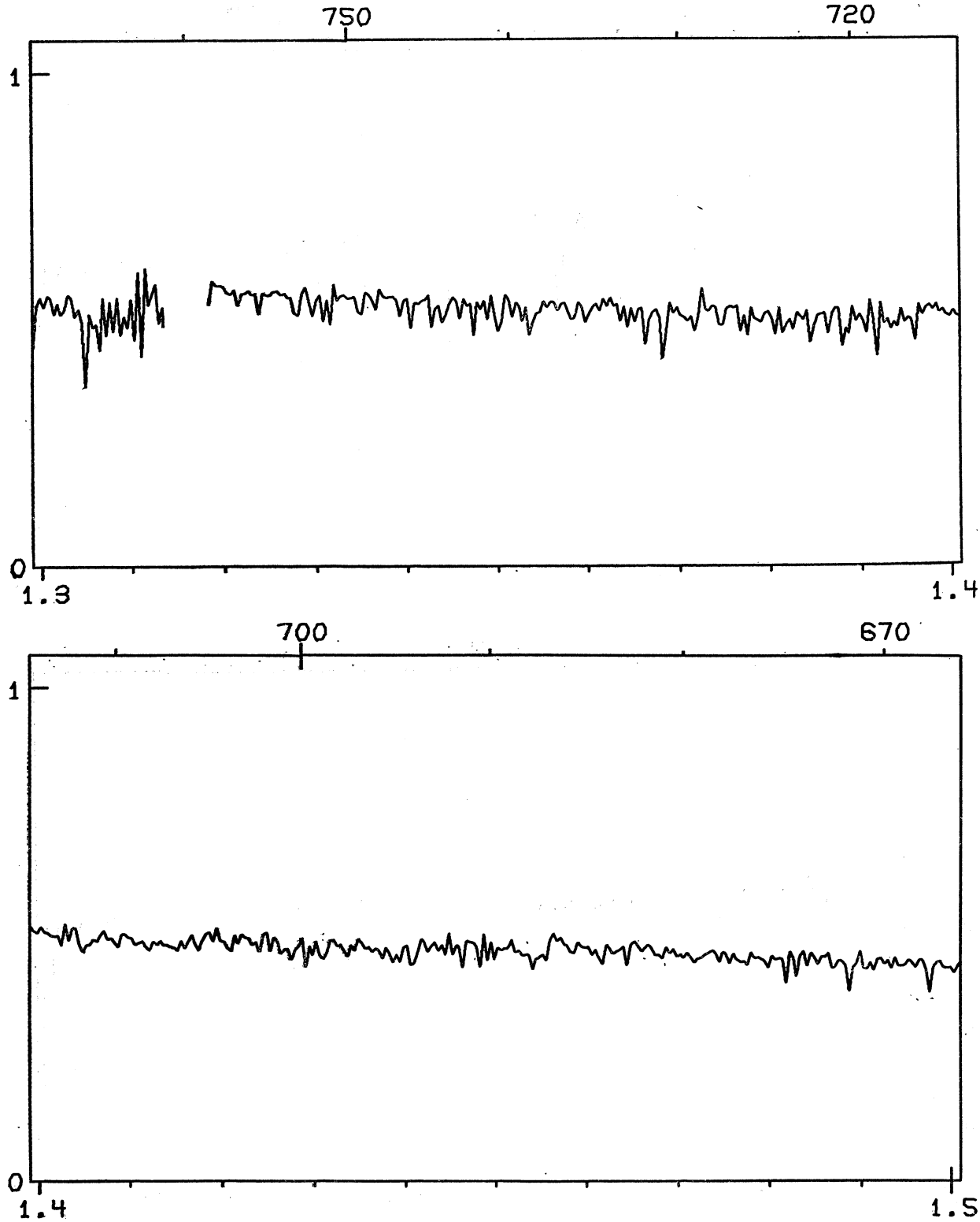


FIG. 12. The spectrum of α Per.

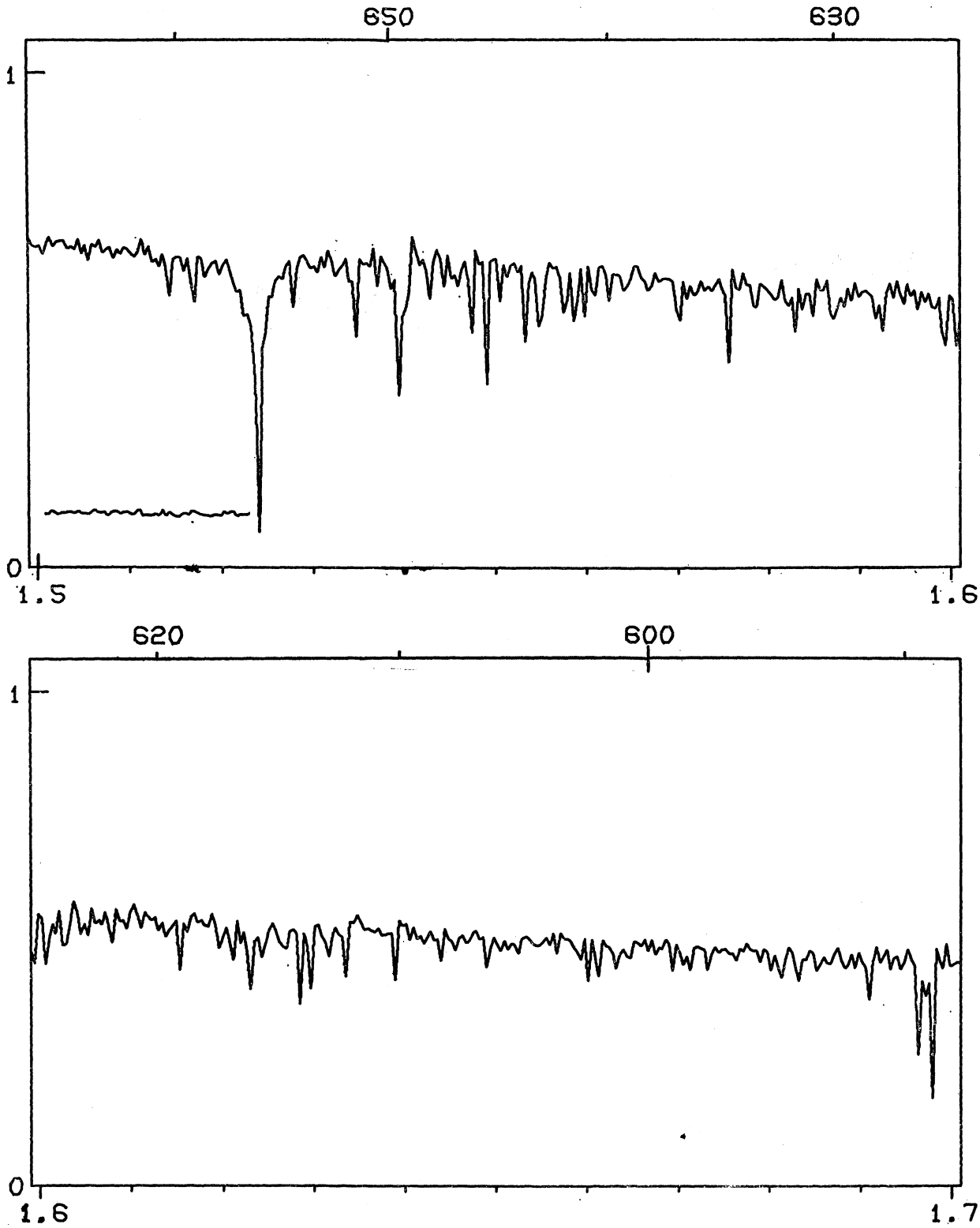


FIG. 12. The spectrum of α Per.

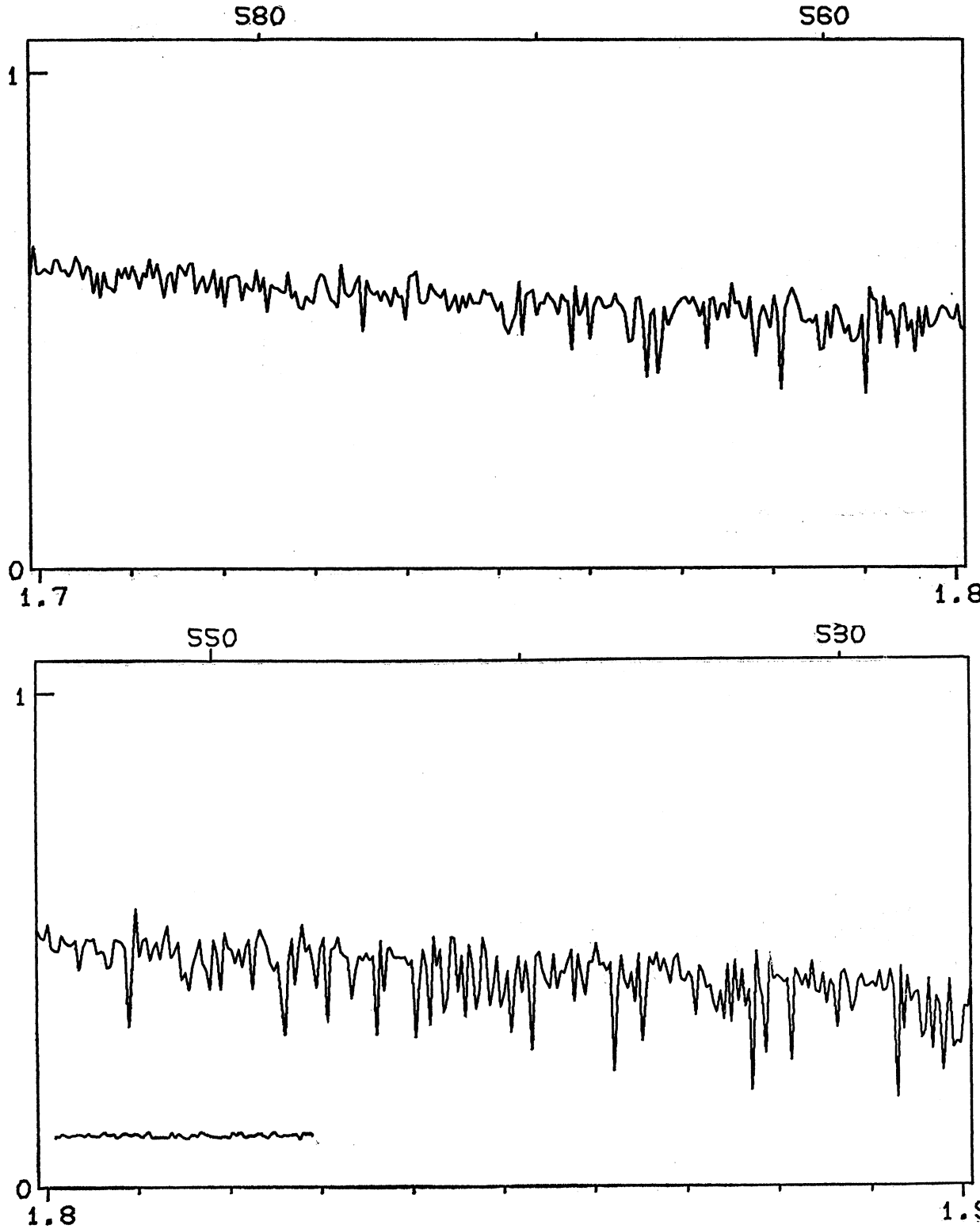


FIG. 12. The spectrum of α Per.

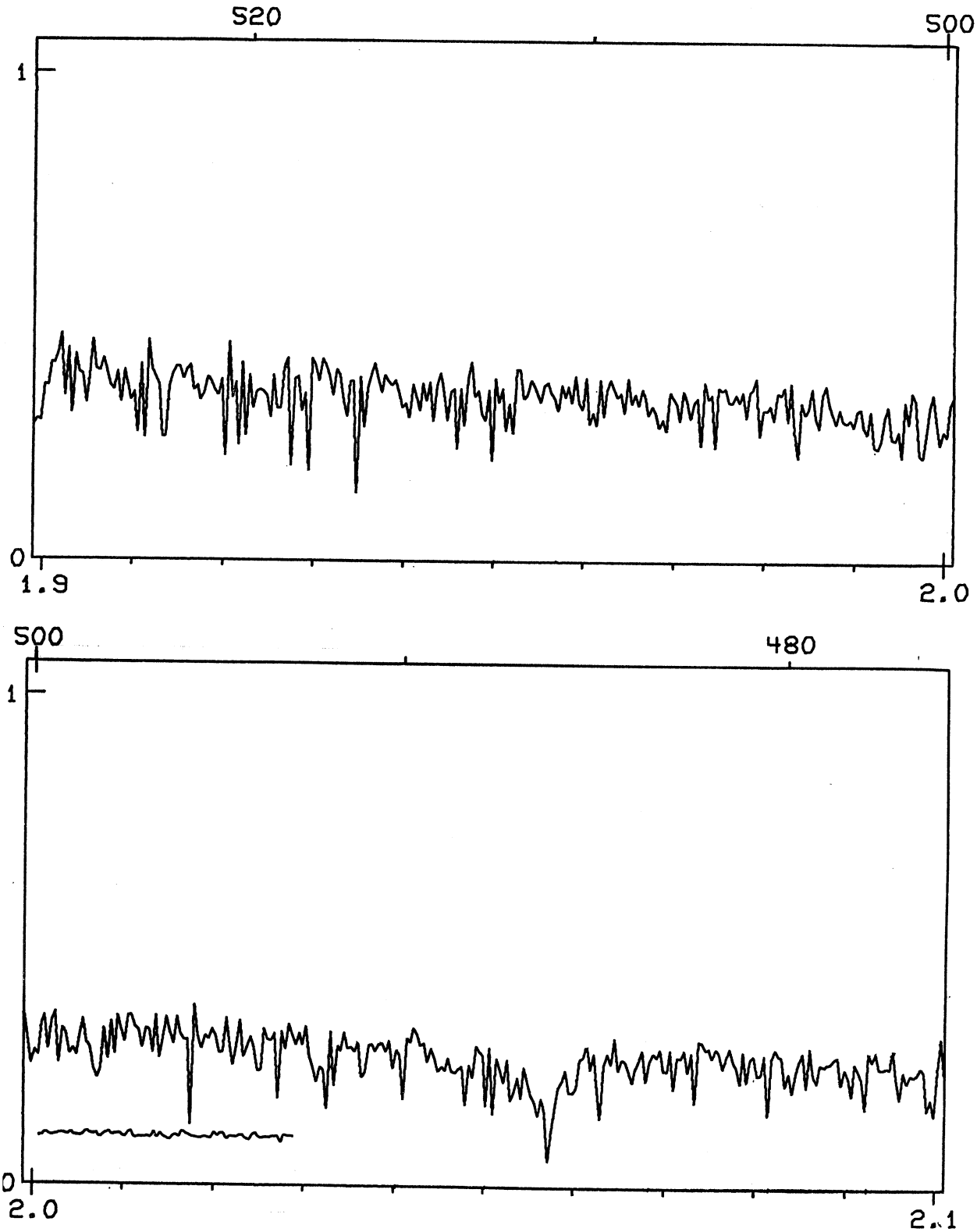


FIG. 12. The spectrum of α Per.

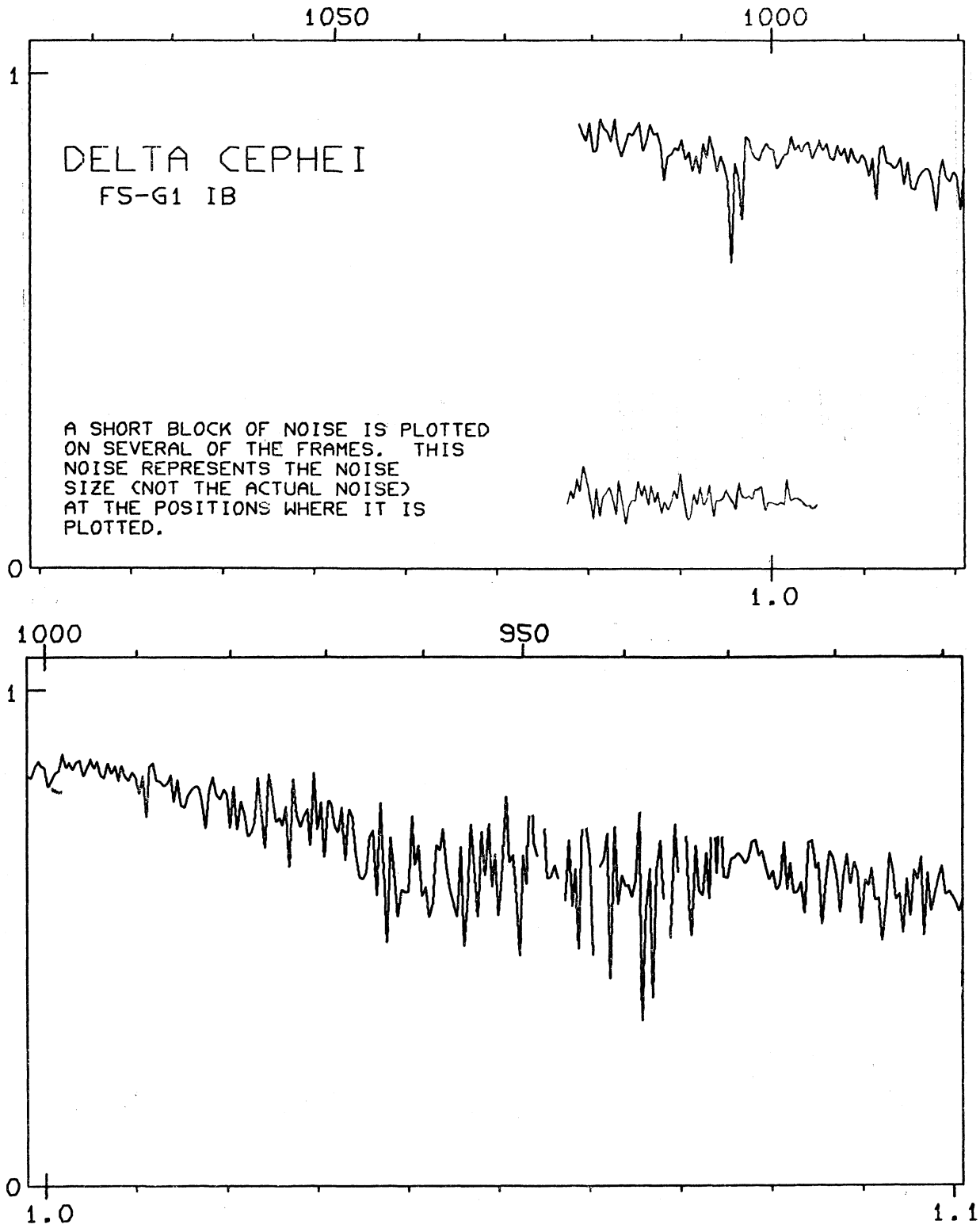


FIG. 13. The spectrum of δ Cep.

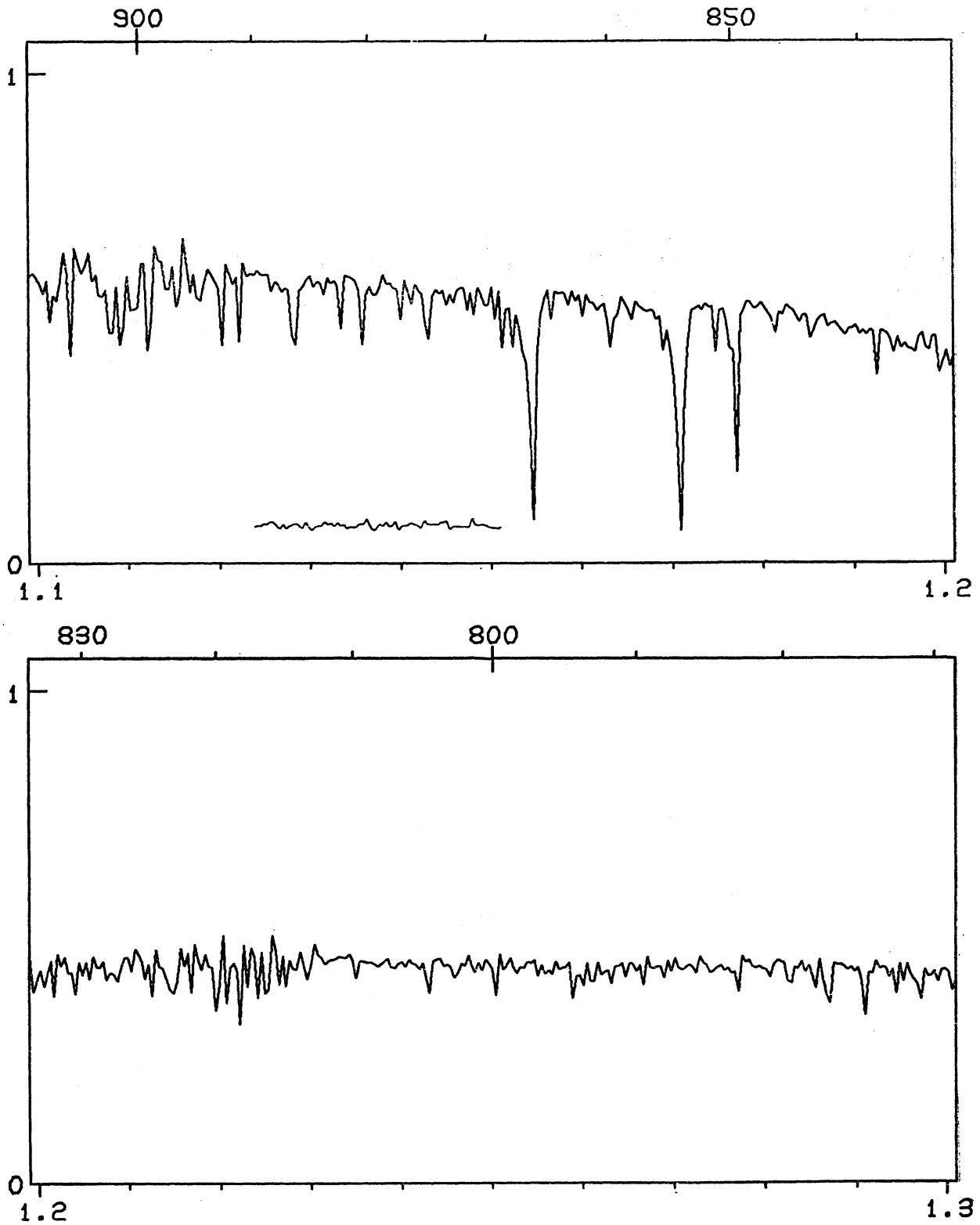


FIG. 13. The spectrum of δ Cep.

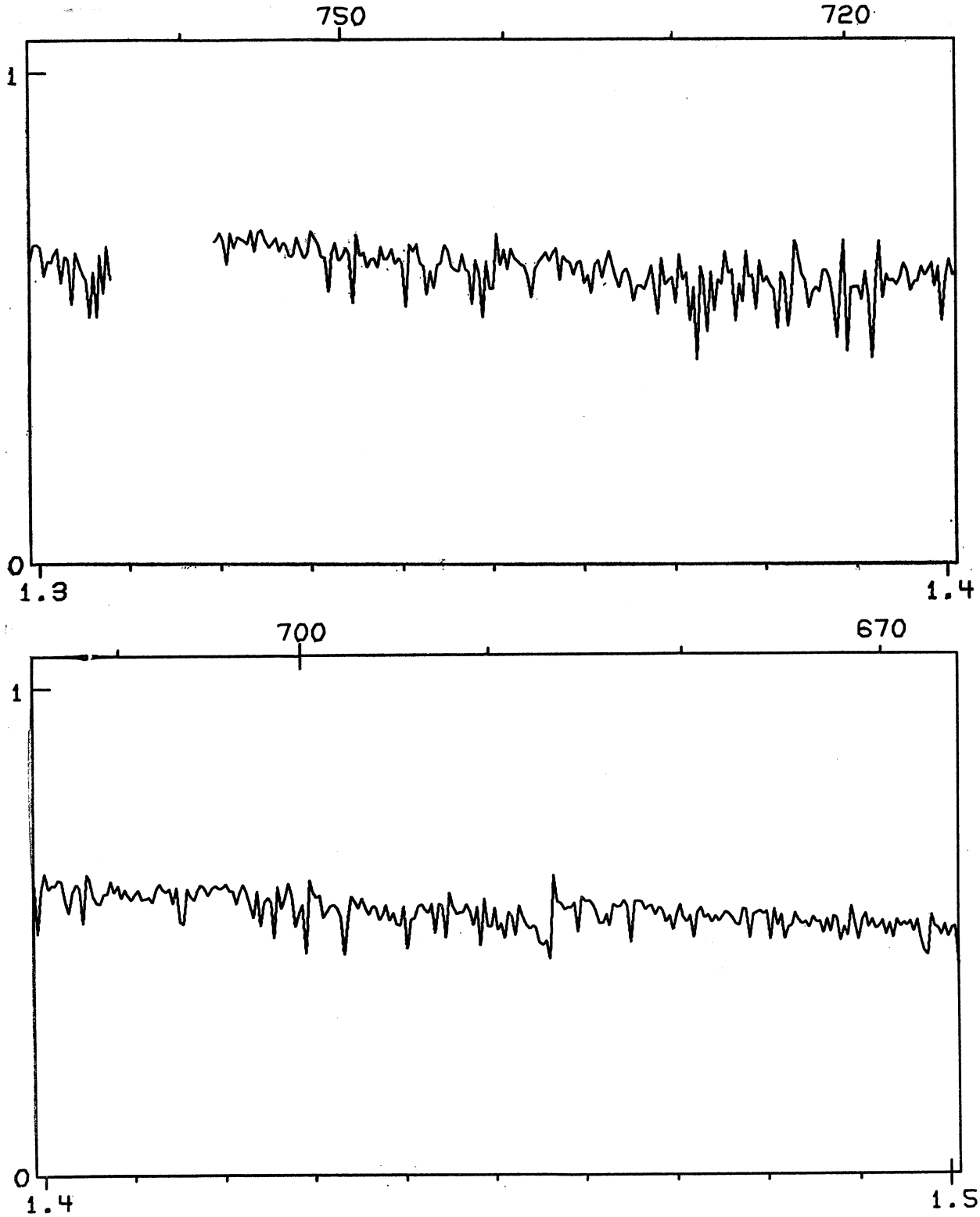


FIG. 13. The spectrum of δ Cep.

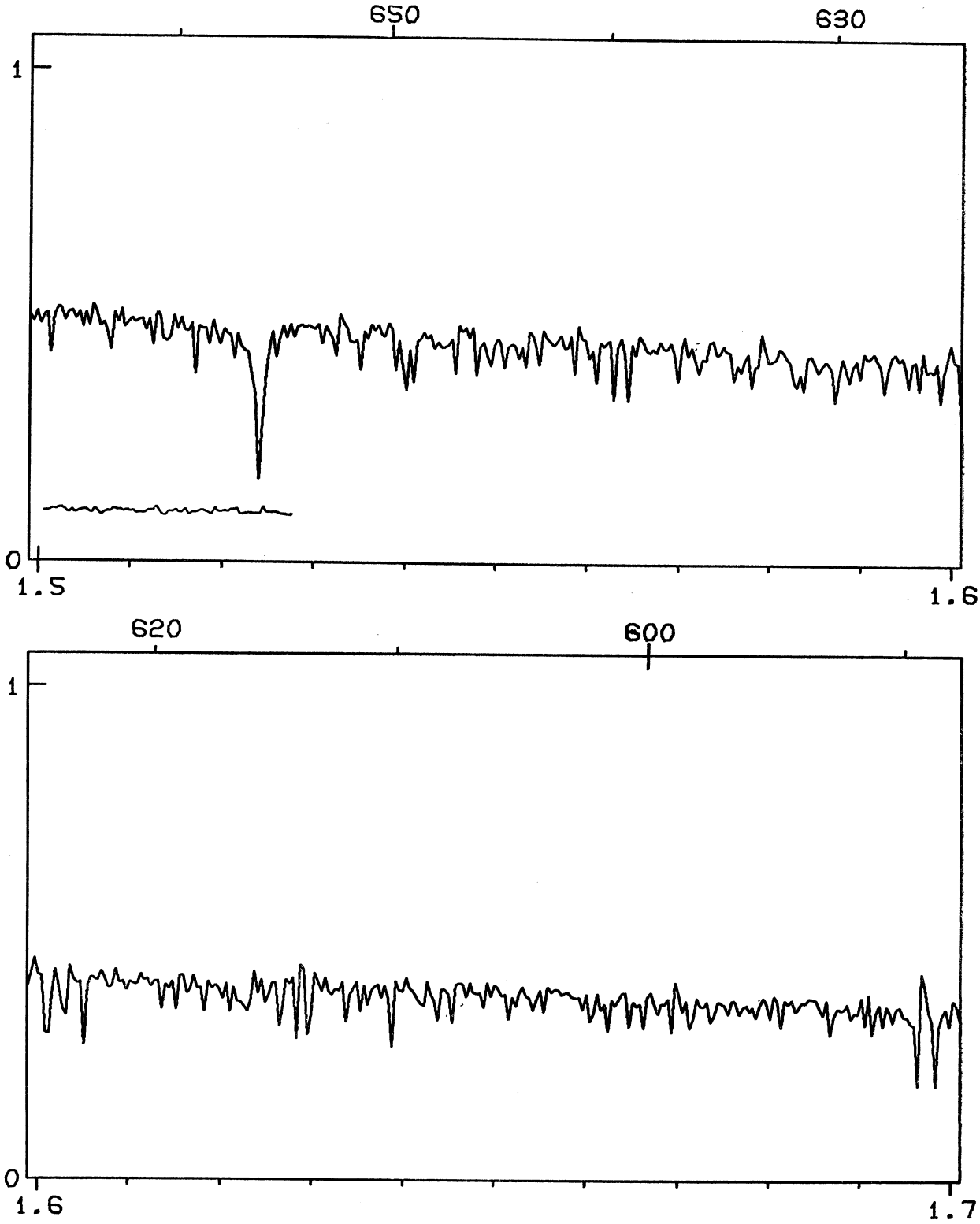


FIG. 13. The spectrum of δ Cep.

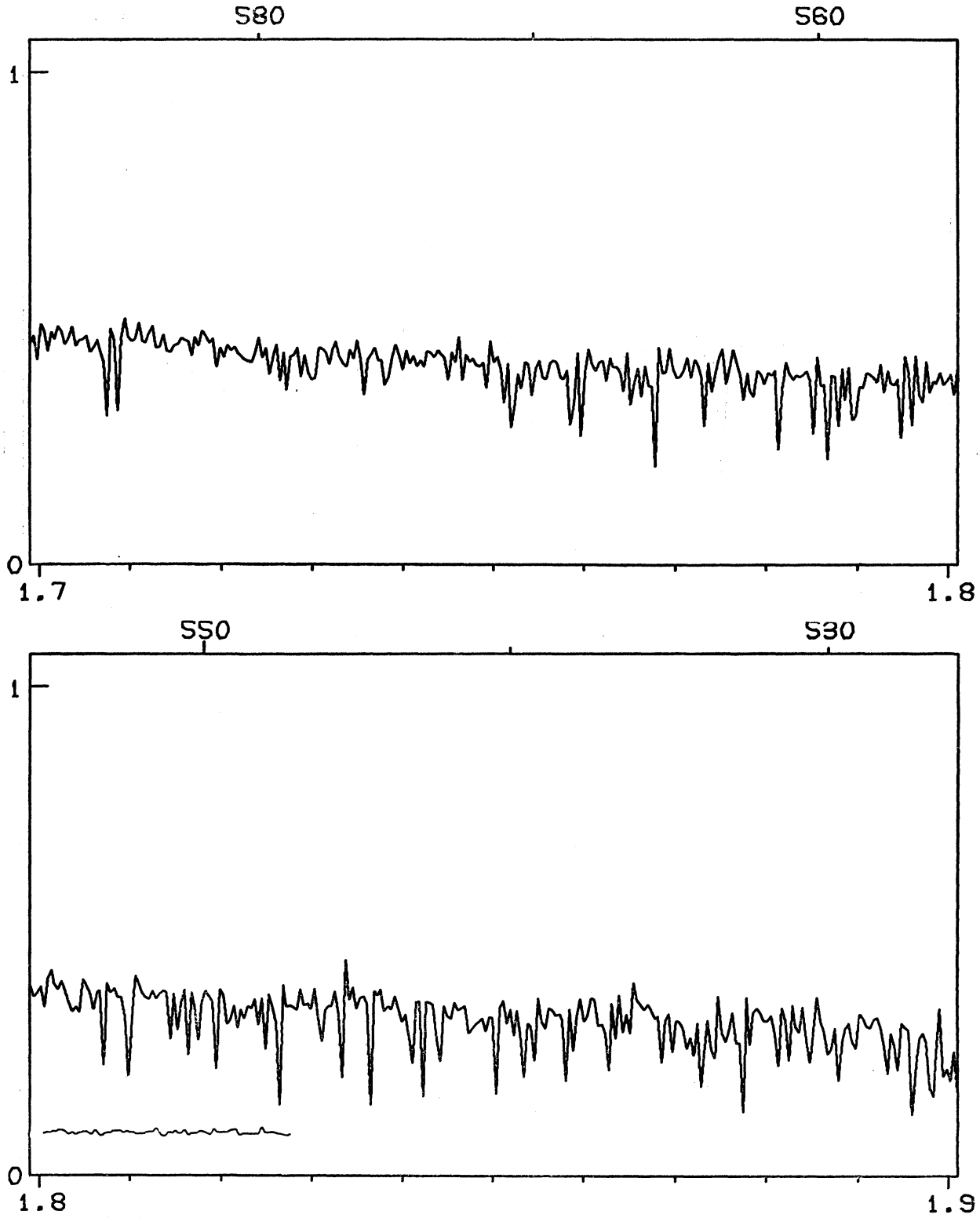


FIG. 13. The spectrum of δ Cep.

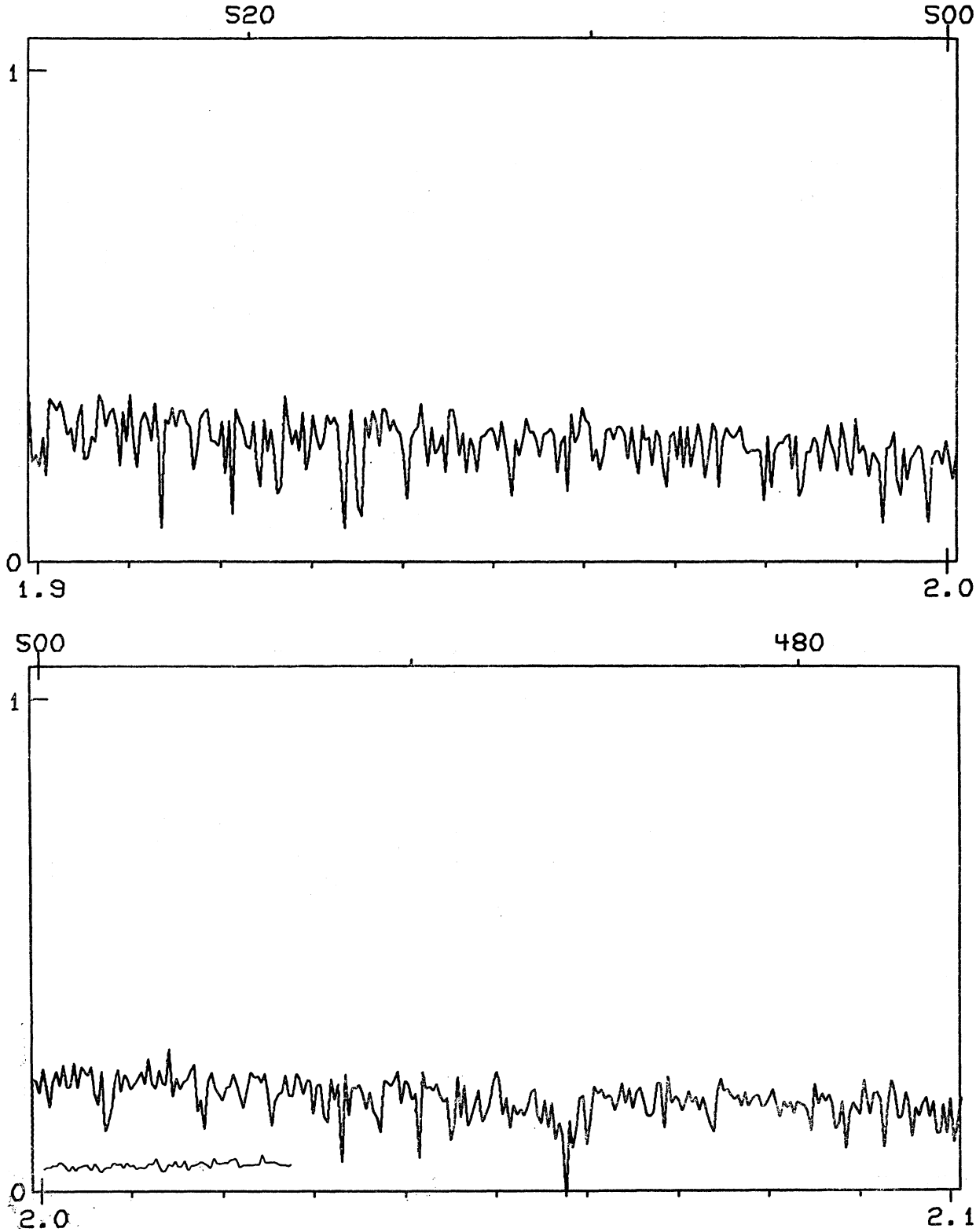


FIG. 13. The spectrum of δ Cep.

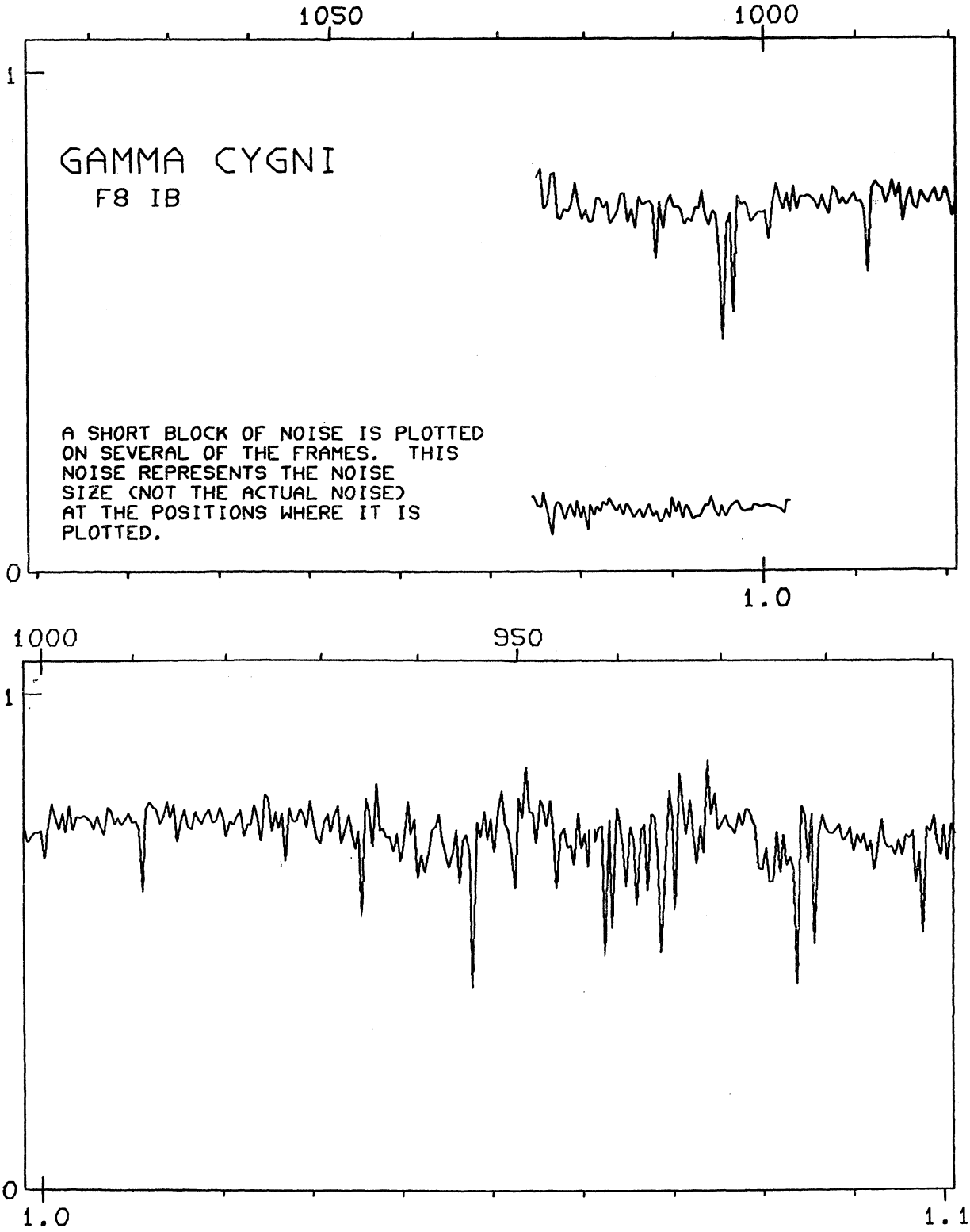


FIG. 14. The spectrum of γ Cyg.

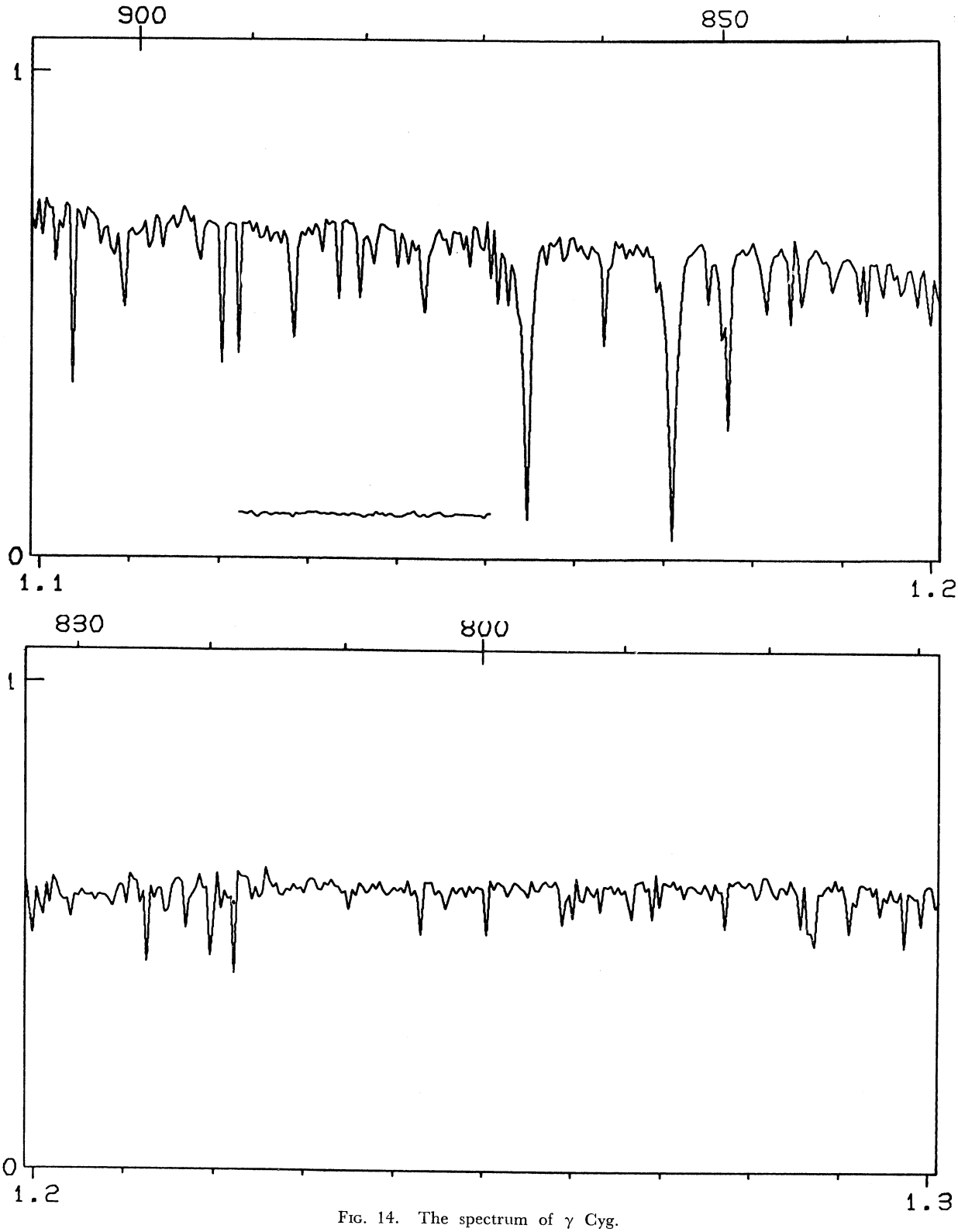


FIG. 14. The spectrum of γ Cyg.

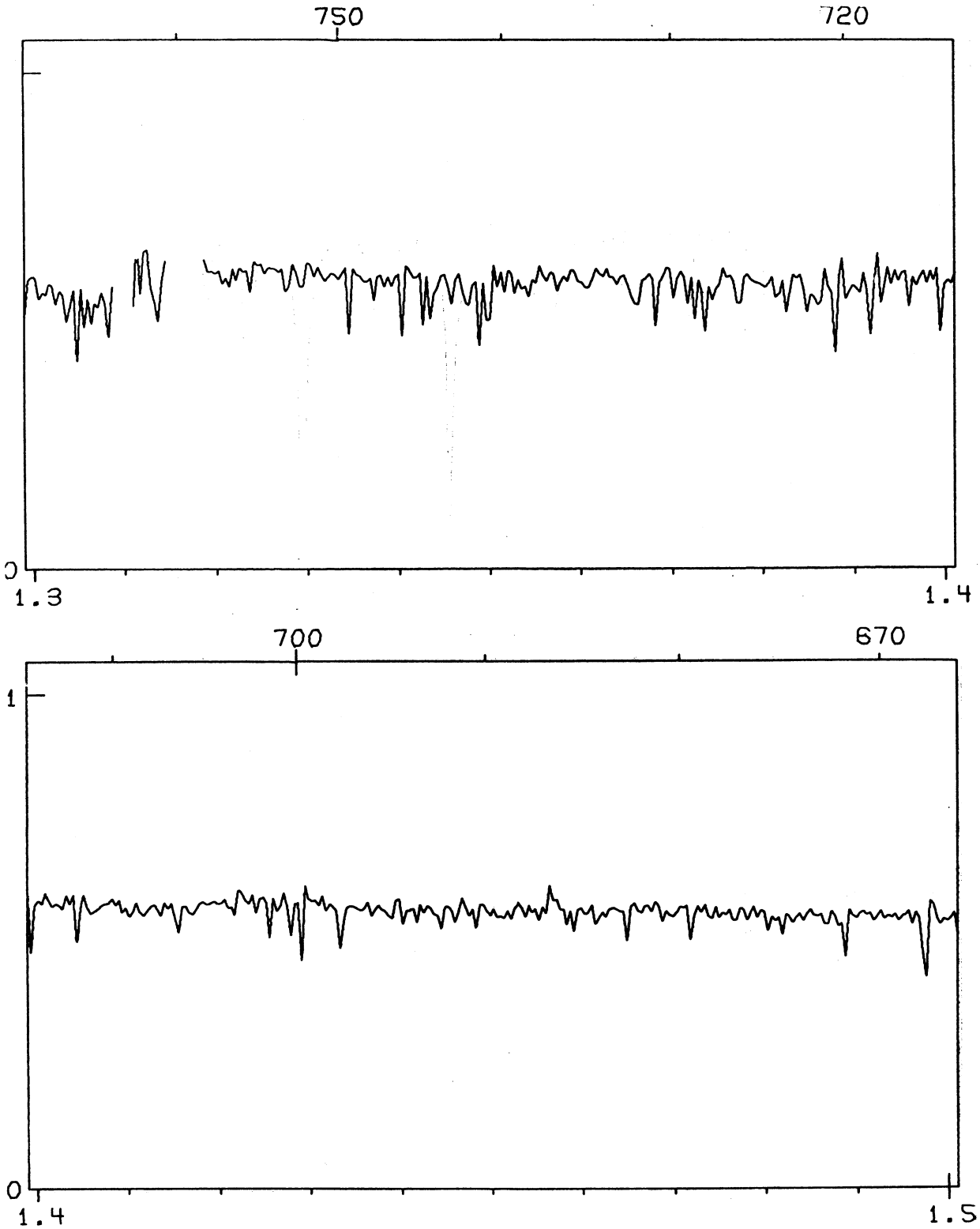


FIG. 14. The spectrum of γ Cyg.

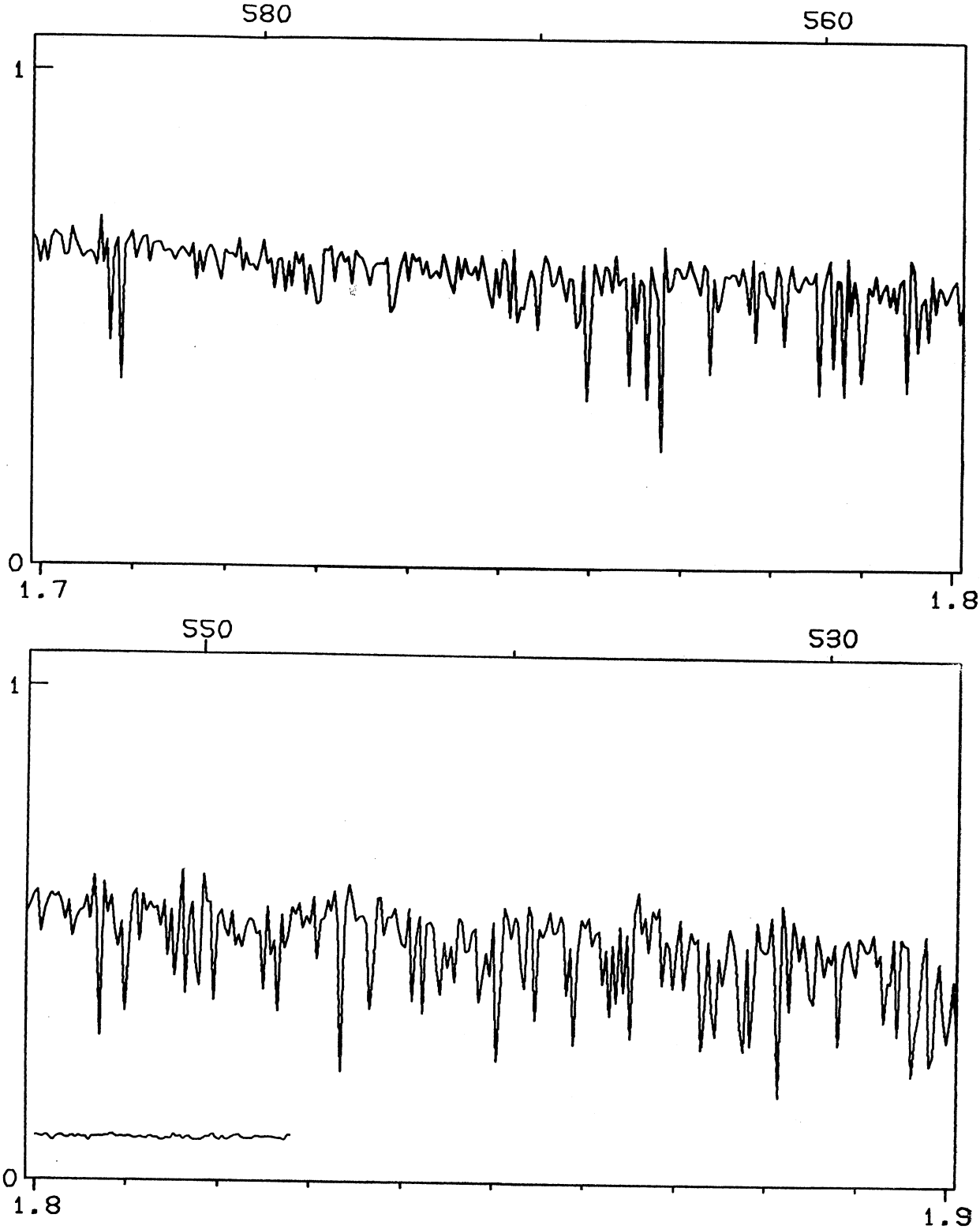


FIG. 14. The spectrum of γ Cyg.

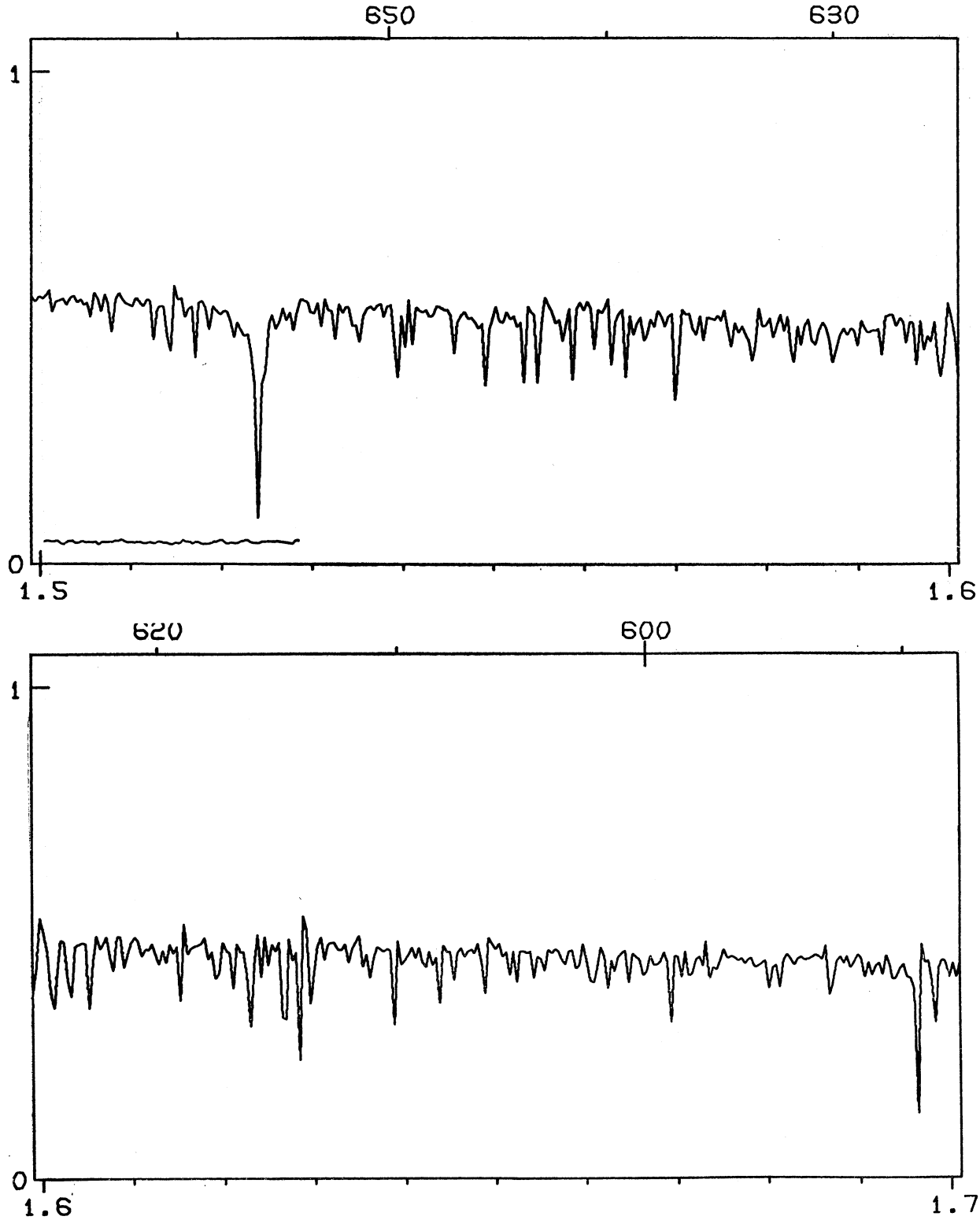


FIG. 14. The spectrum of γ Cyg.

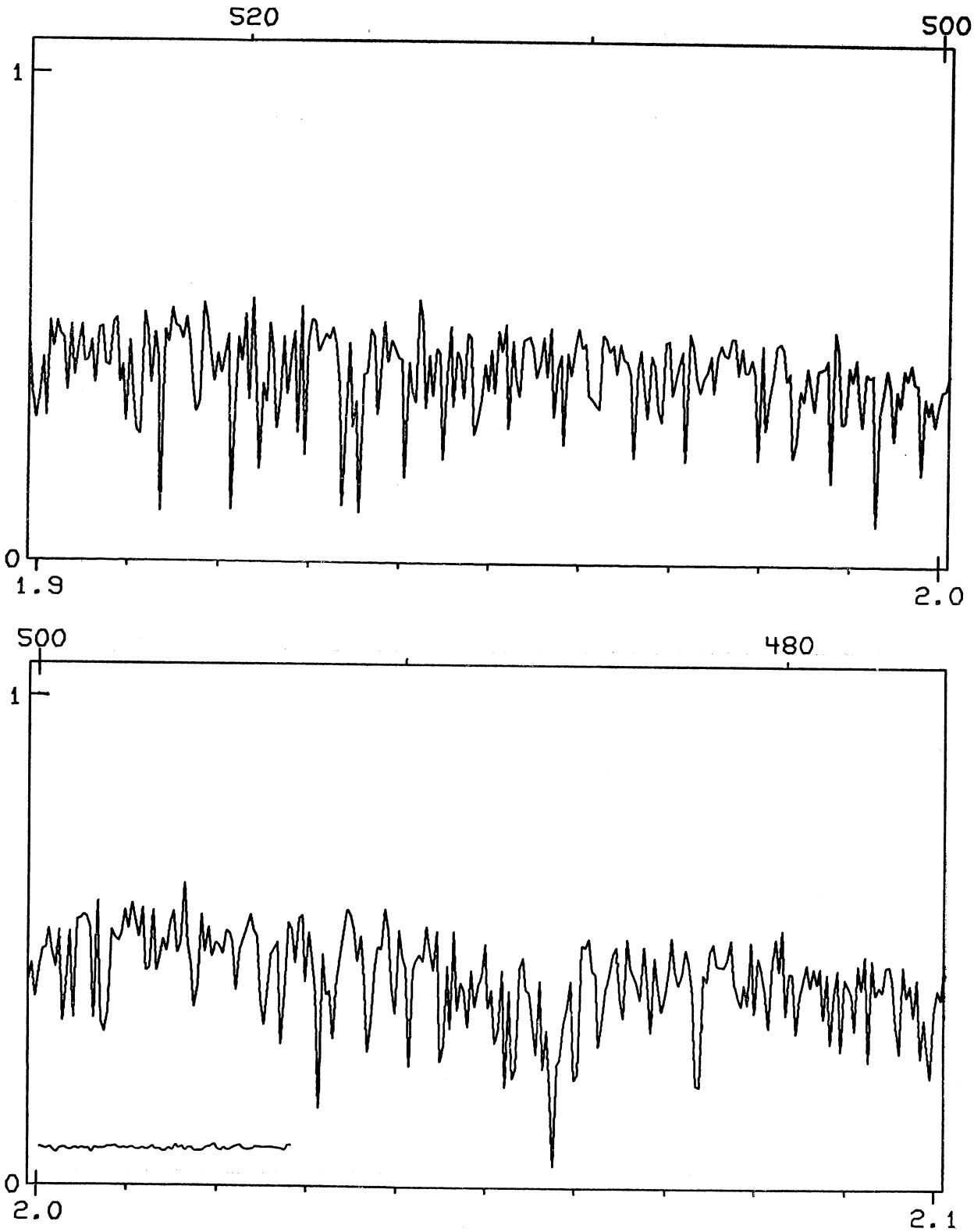


FIG. 14. The spectrum of γ Cyg.

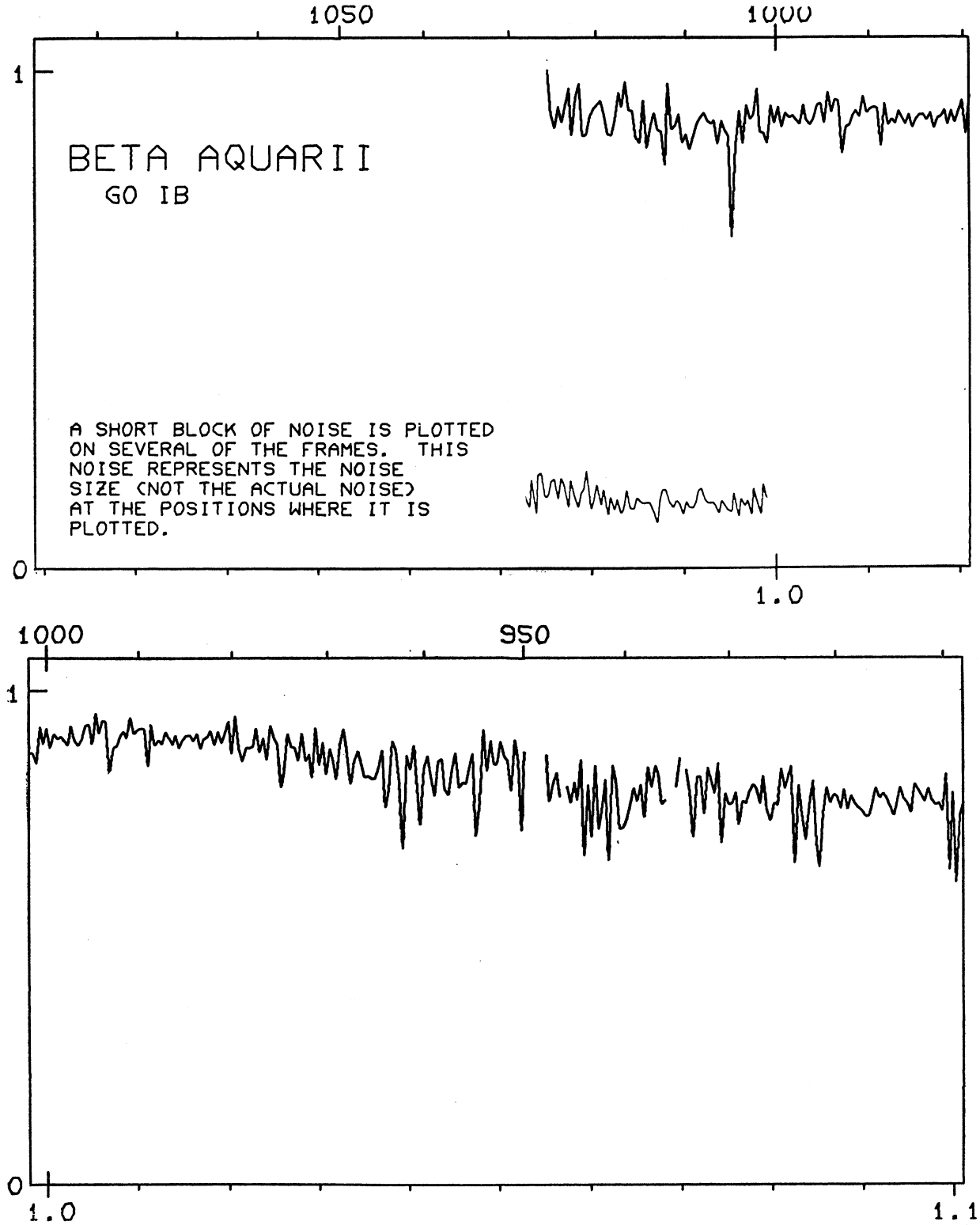


FIG. 15. The spectrum of β Aqr.

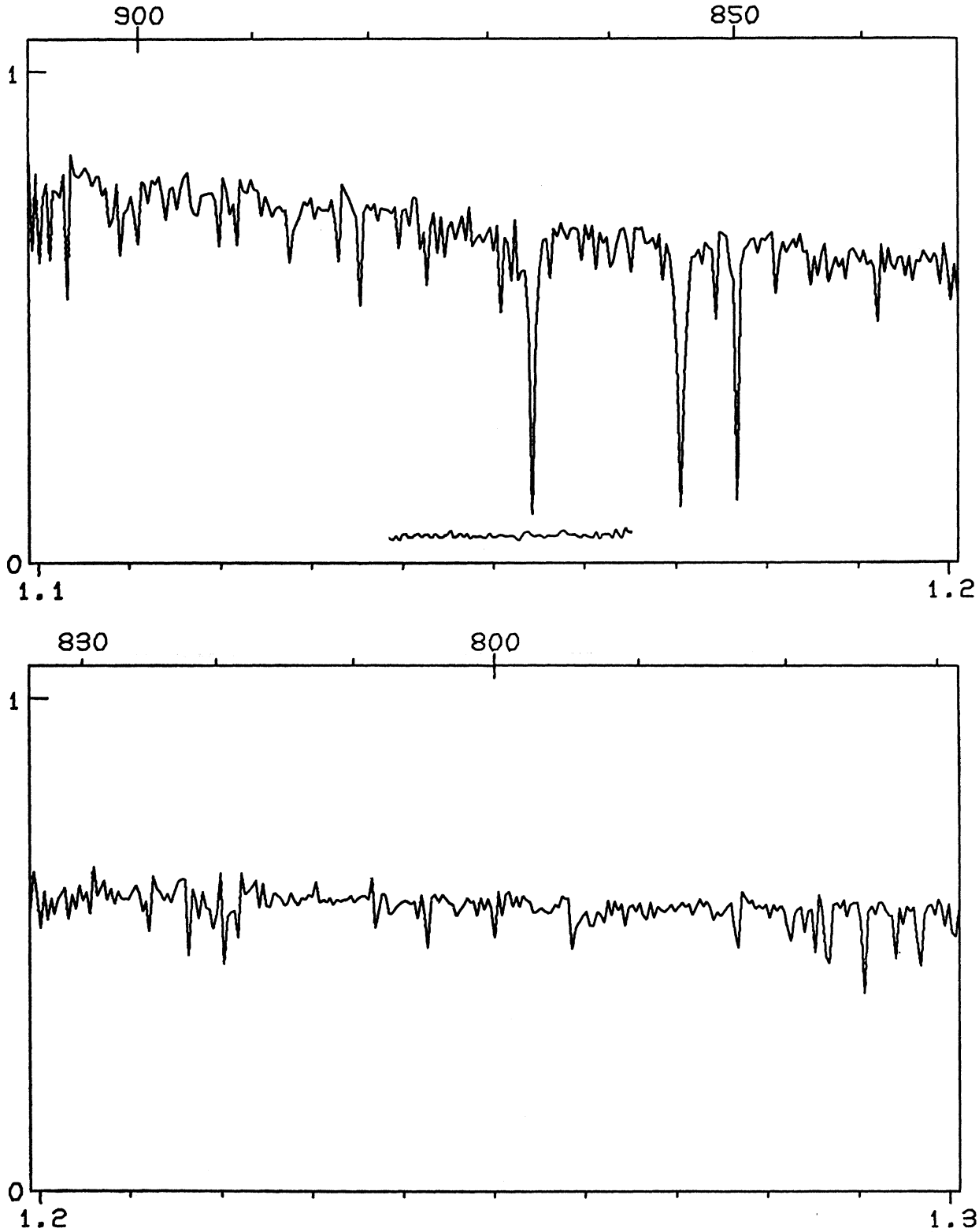


FIG. 15. The spectrum of β Aqr.

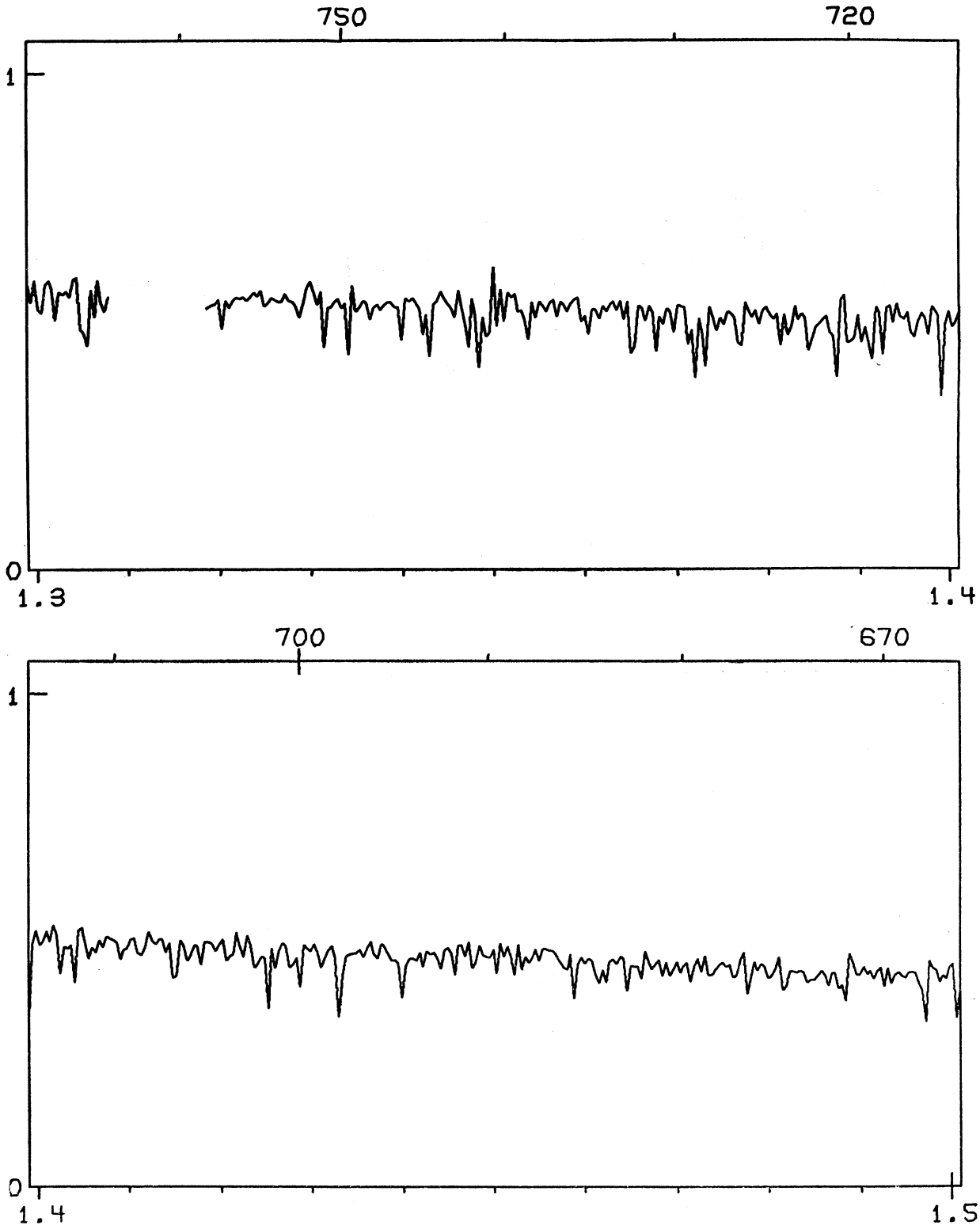


FIG. 15. The spectrum of β Aqr.

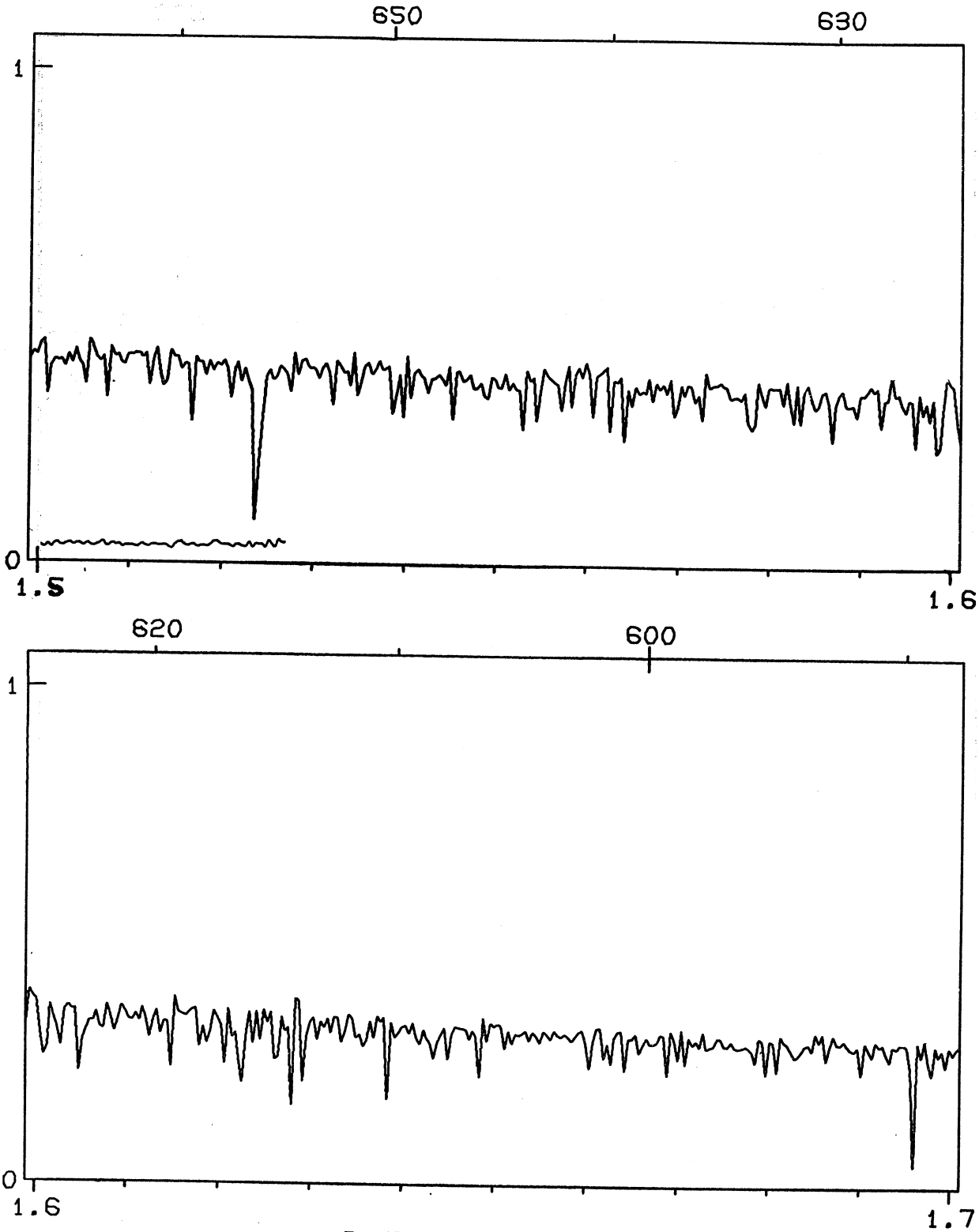


FIG. 15. The spectrum of β Aqr.

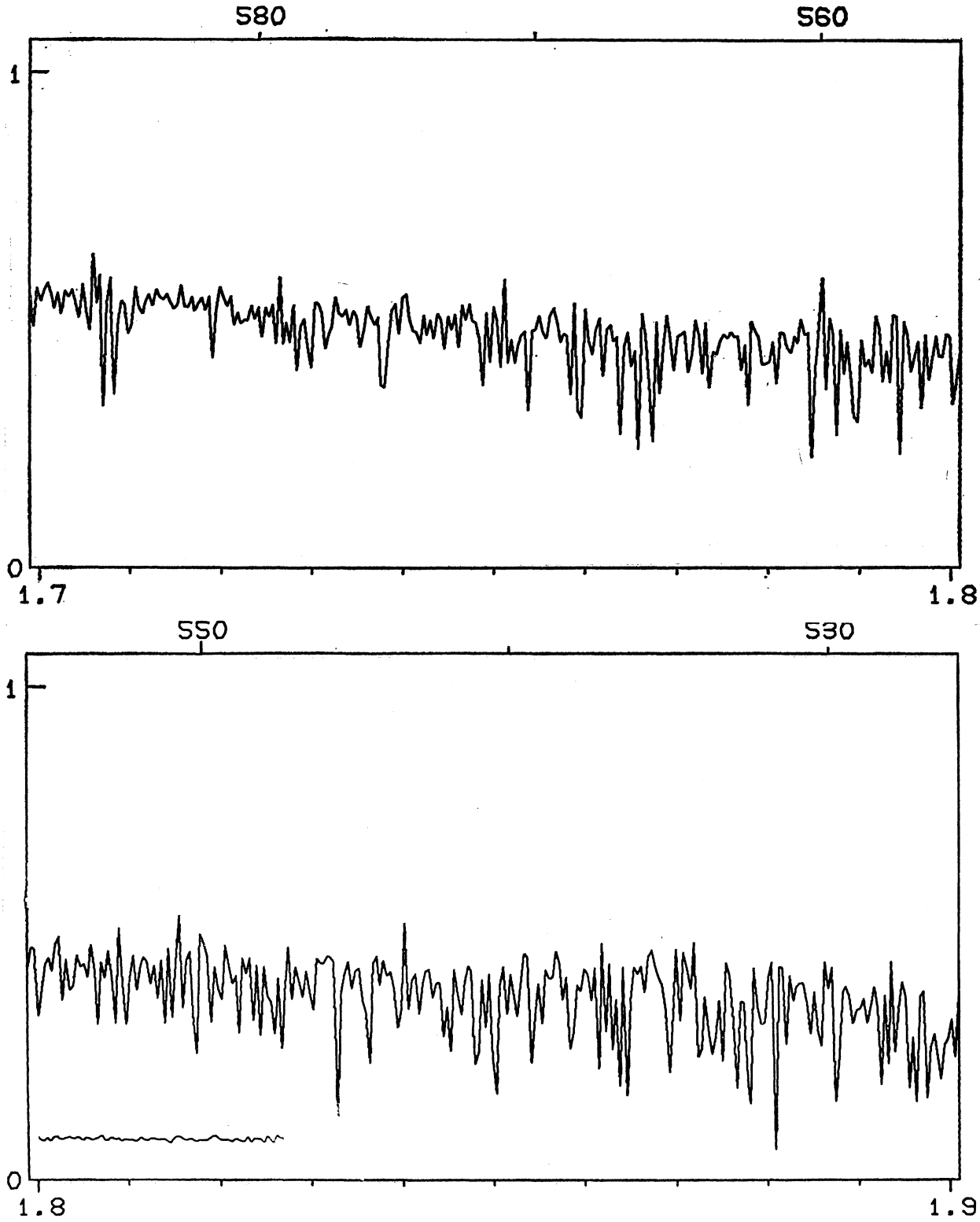


FIG. 15. The spectrum of β Aqr.

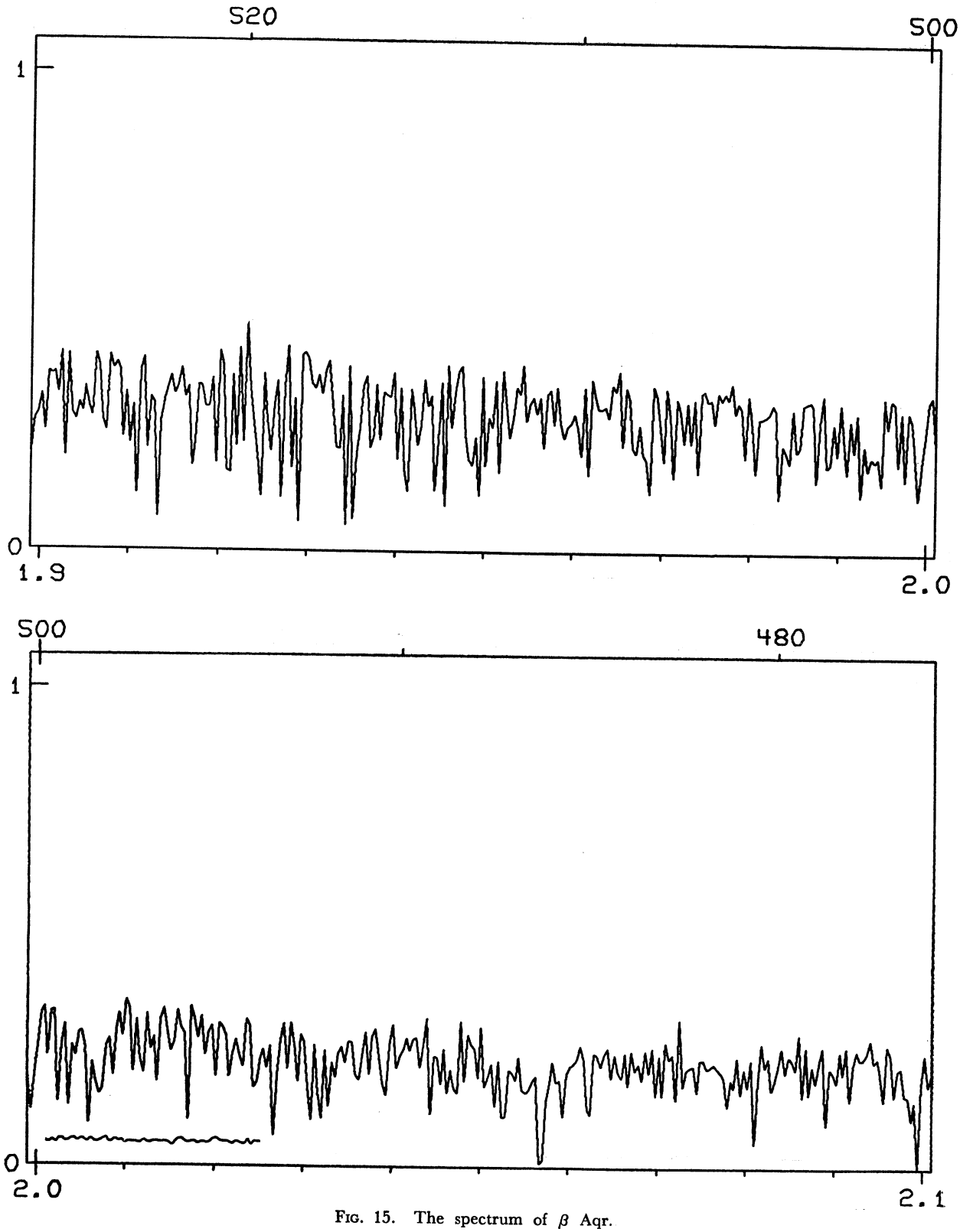


FIG. 15. The spectrum of β Aqr.

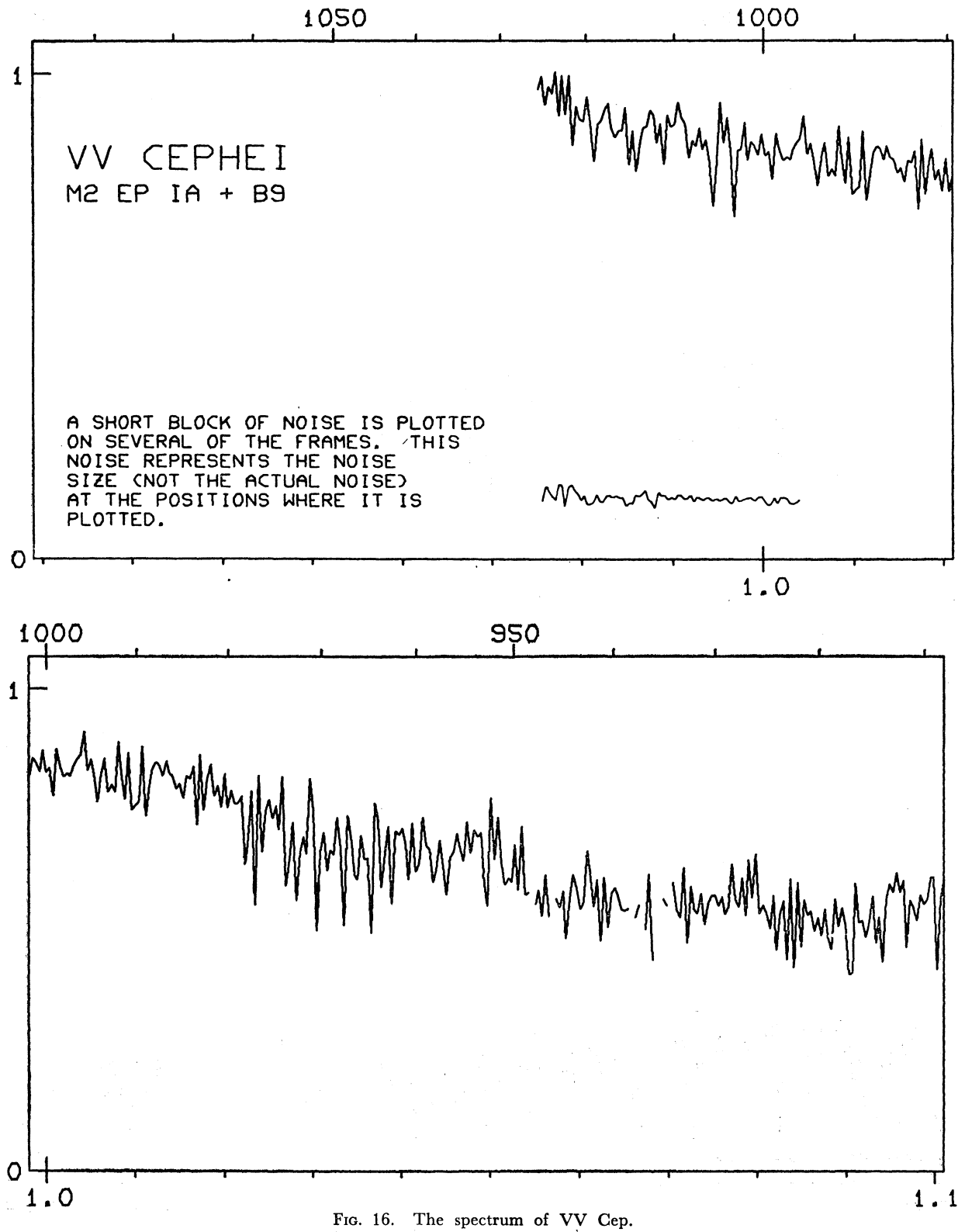


FIG. 16. The spectrum of VV Cep.

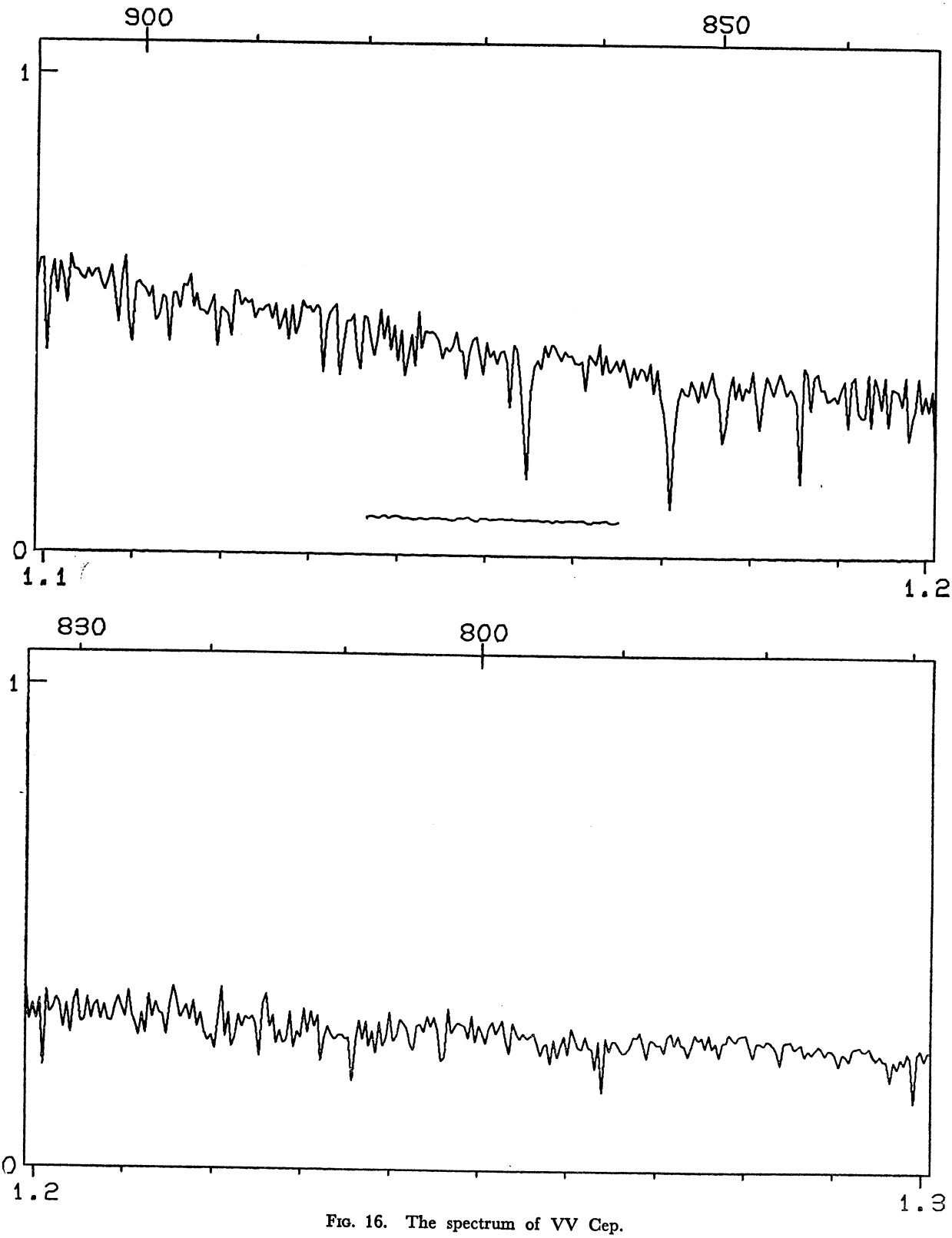


FIG. 16. The spectrum of VV Cep.

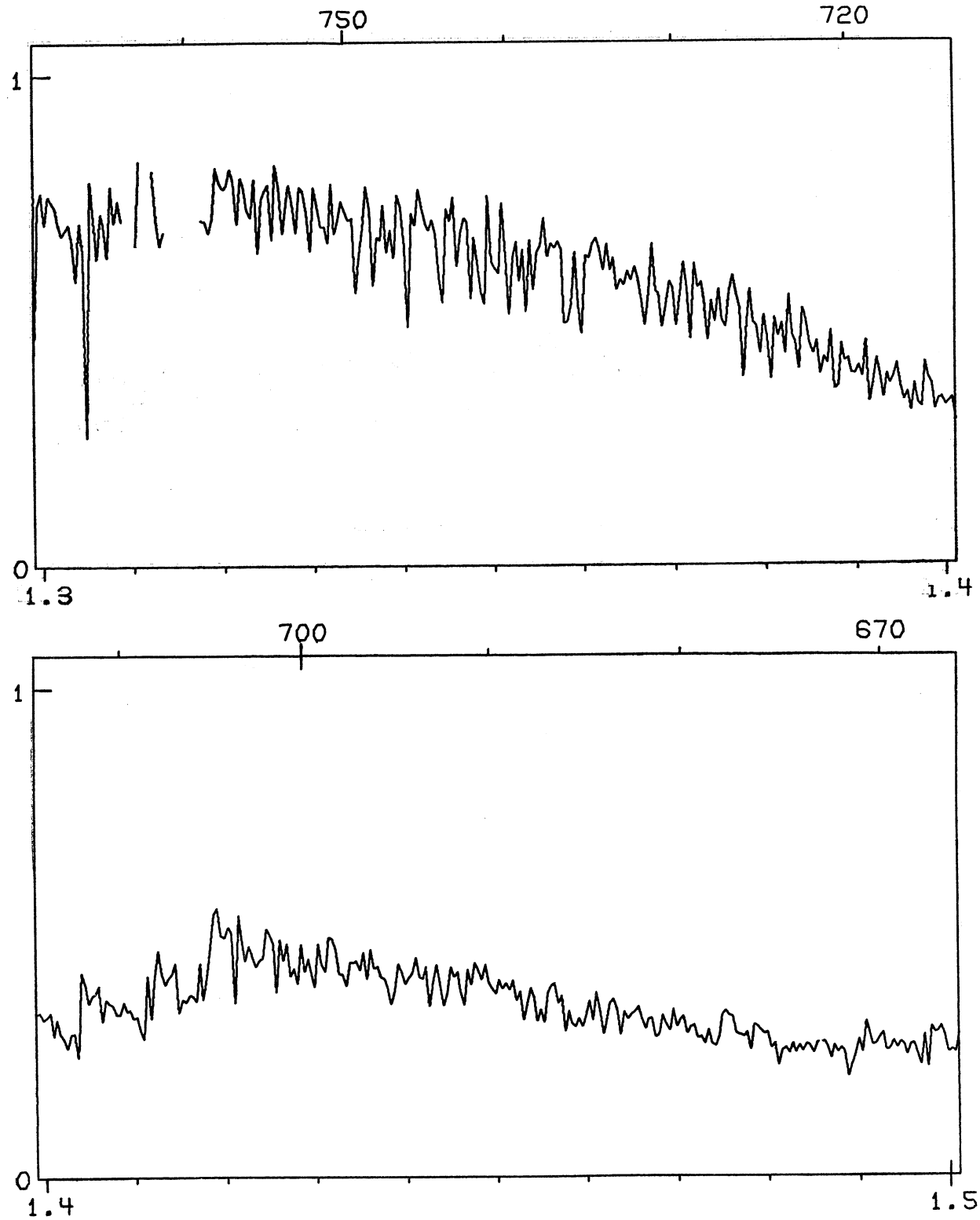


FIG. 16. The spectrum of VV Cep.

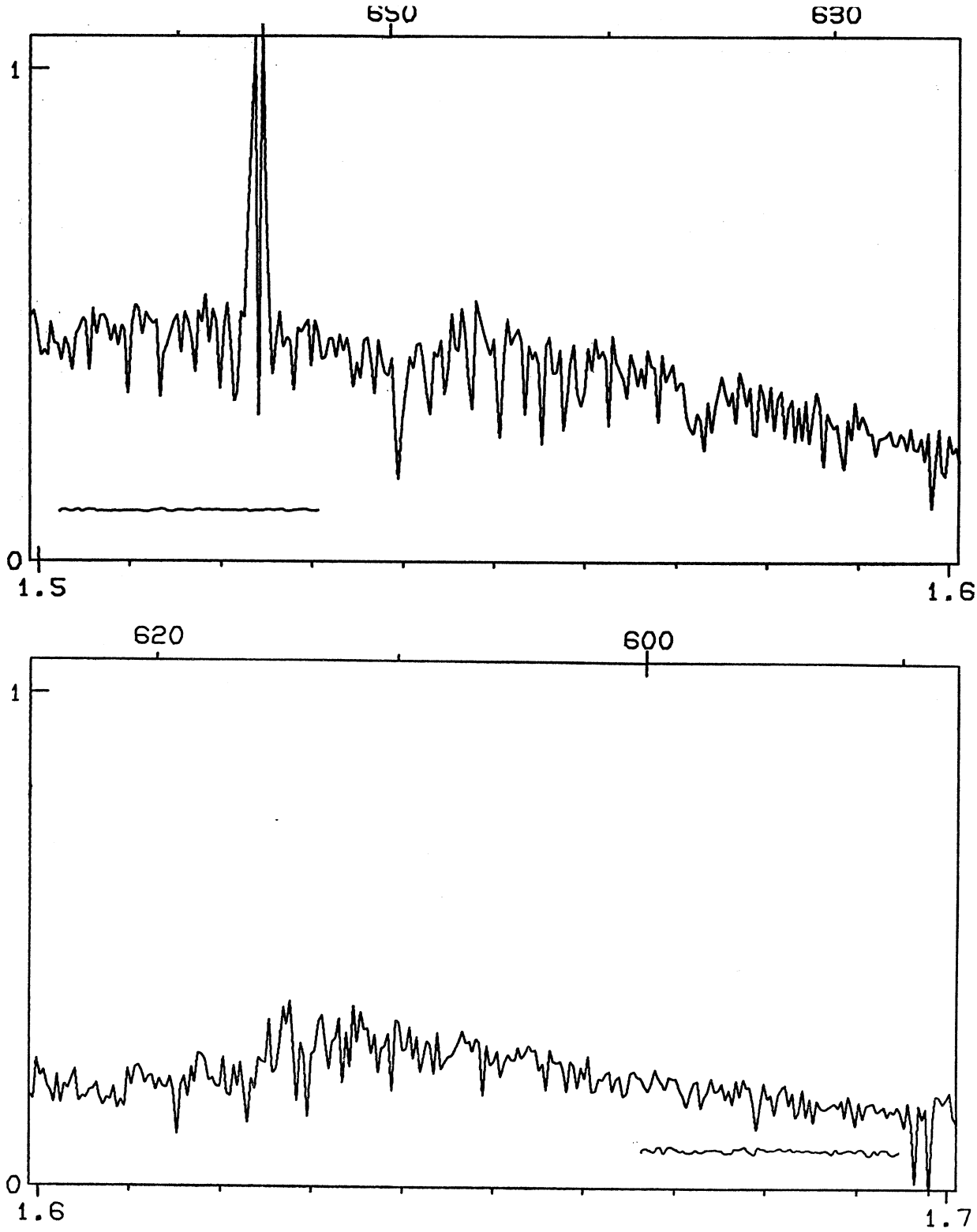


FIG. 16. The spectrum of VV Cep.

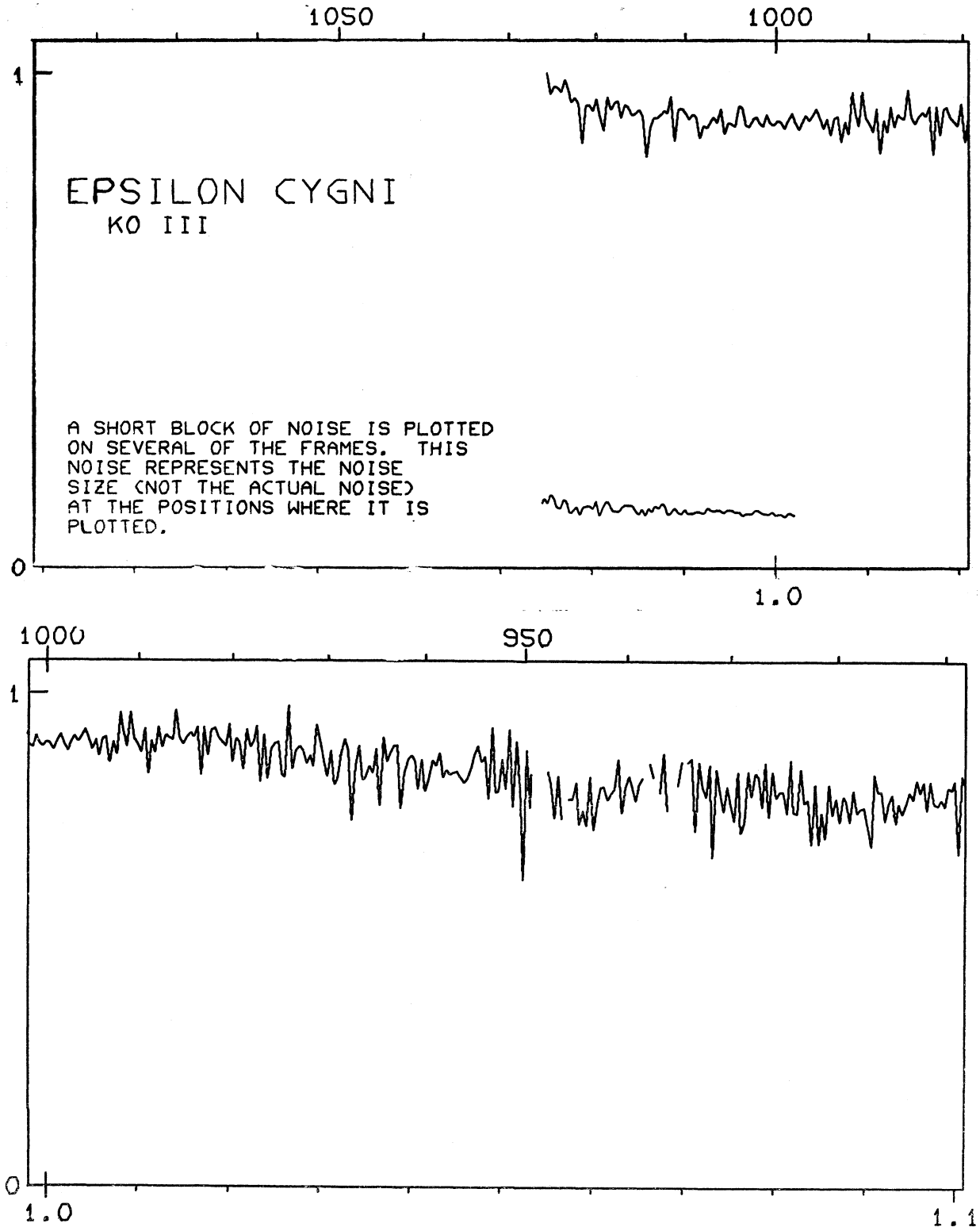


FIG. 17. The spectrum of ϵ Cyg.

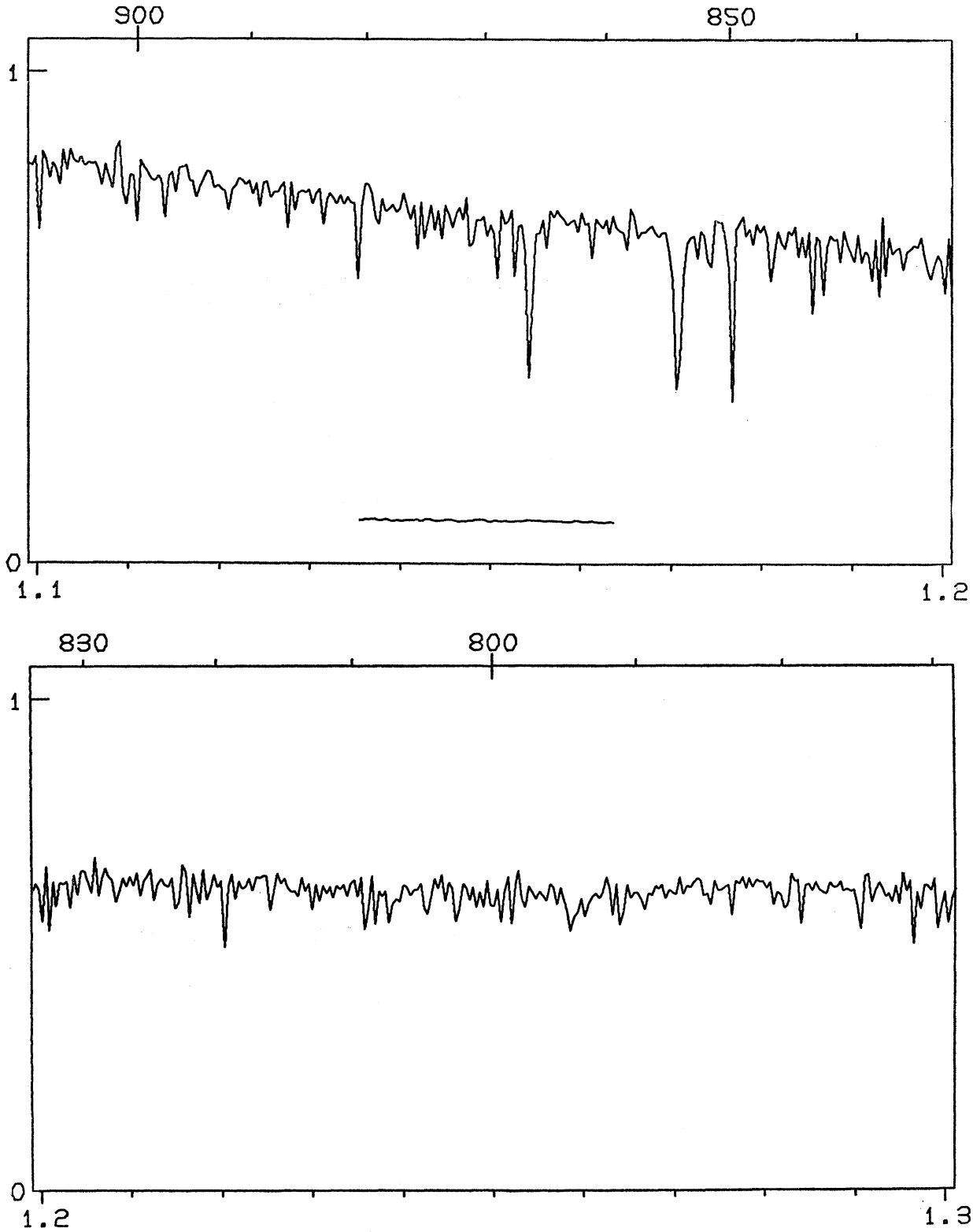


FIG. 17. The spectrum of ϵ Cyg.

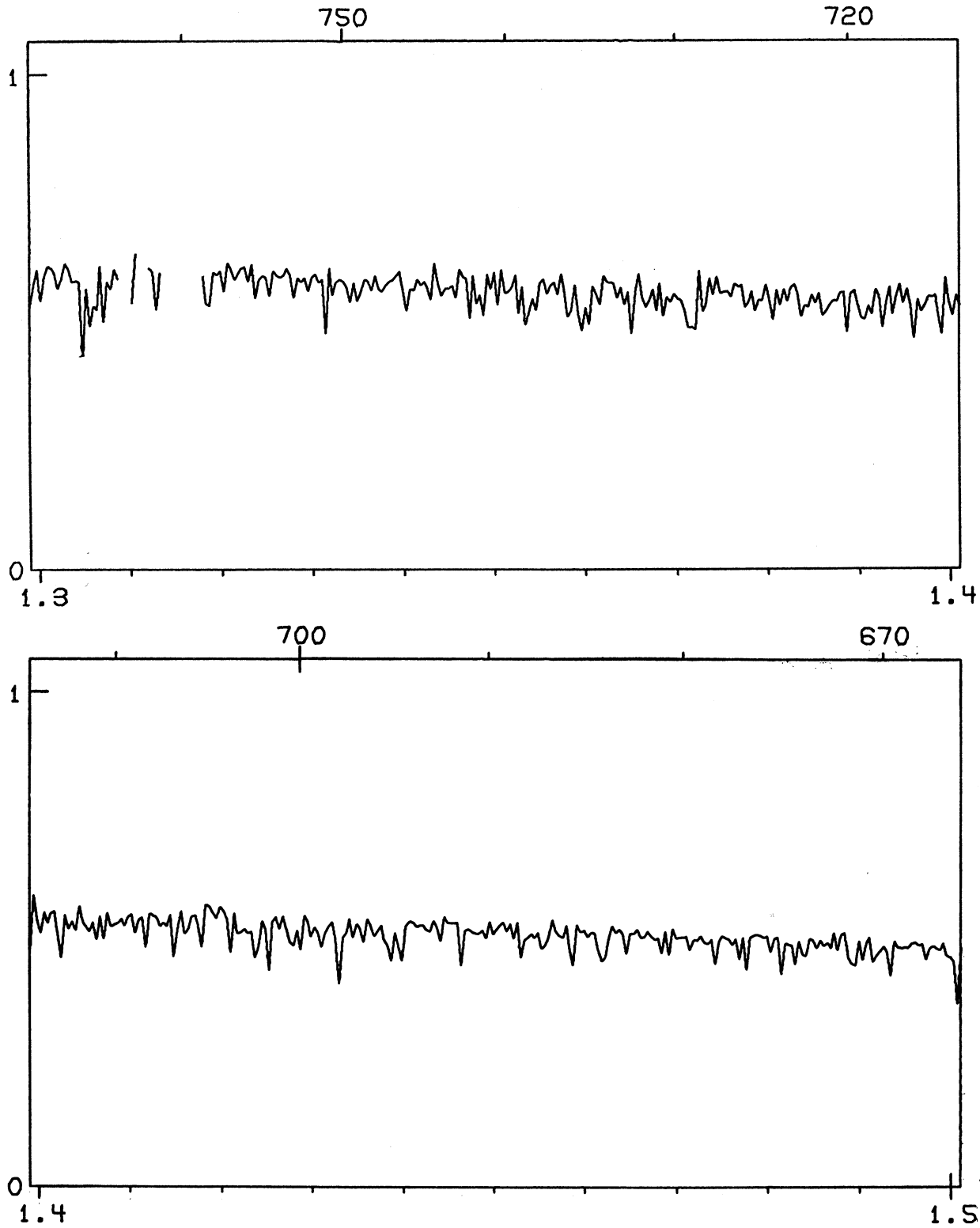


FIG. 17. The spectrum of ϵ Cyg.

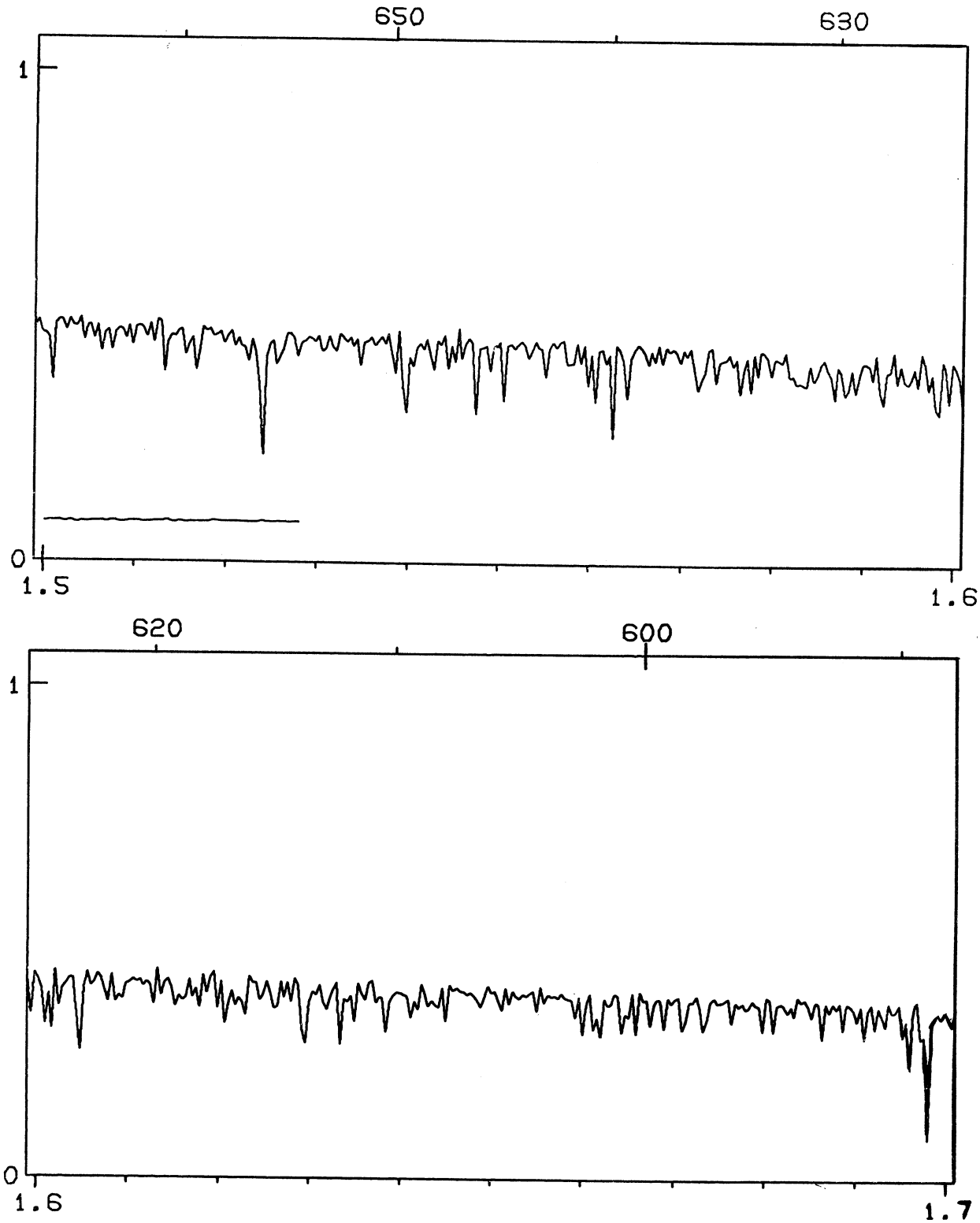


FIG. 17. The spectrum of ϵ Cyg.

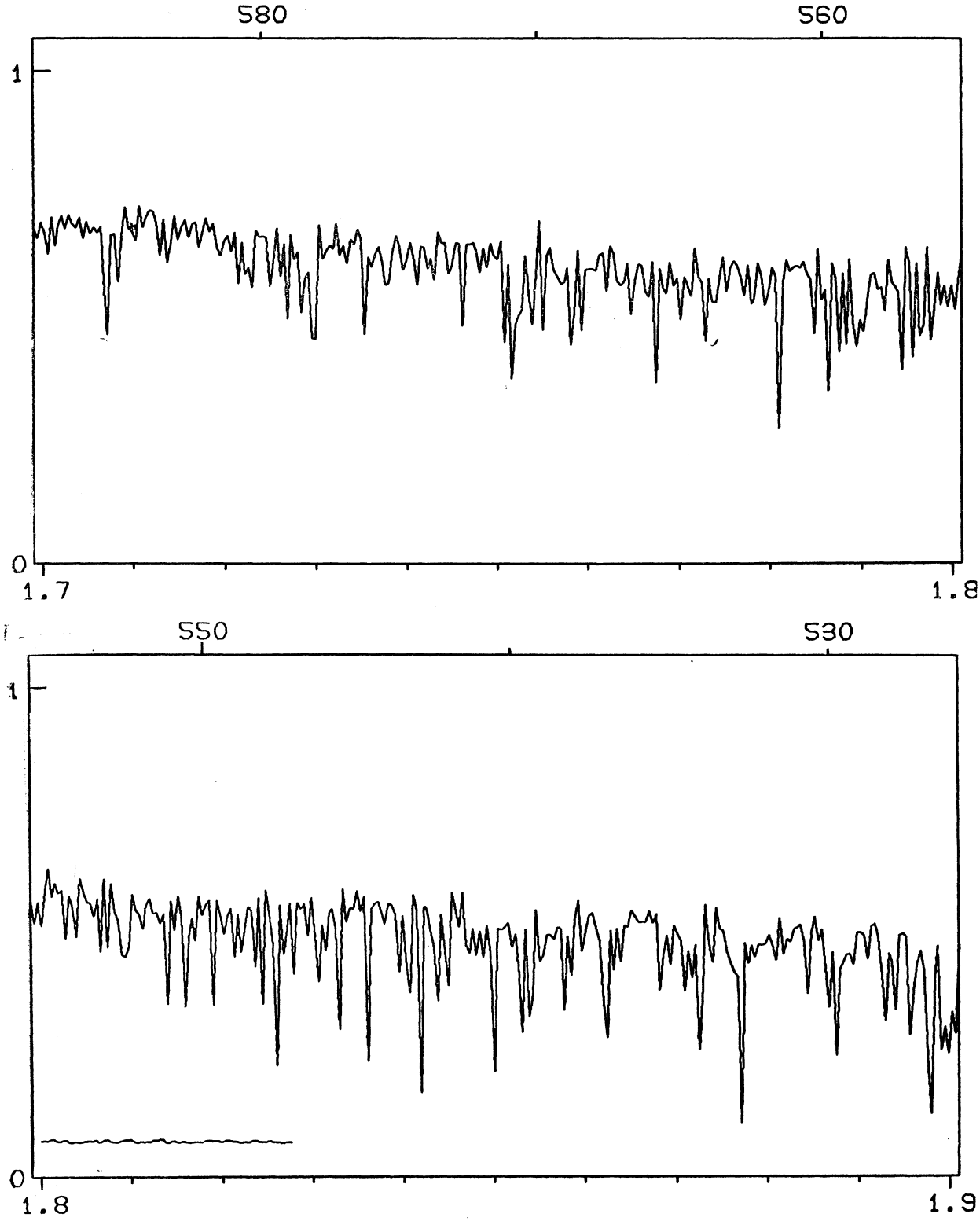


FIG. 17. The spectrum of ε Cyg.

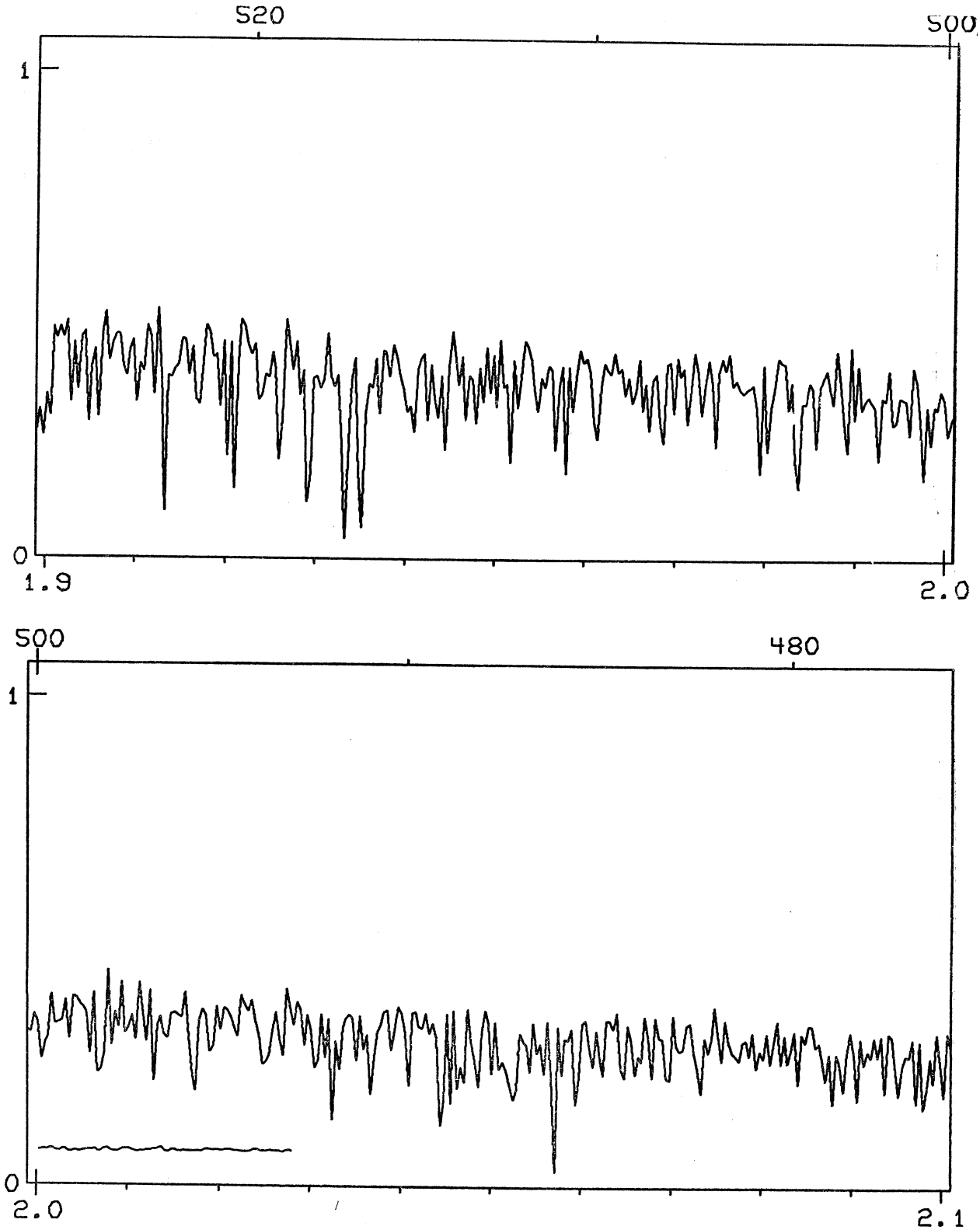


FIG. 17. The spectrum of ϵ Cyg.

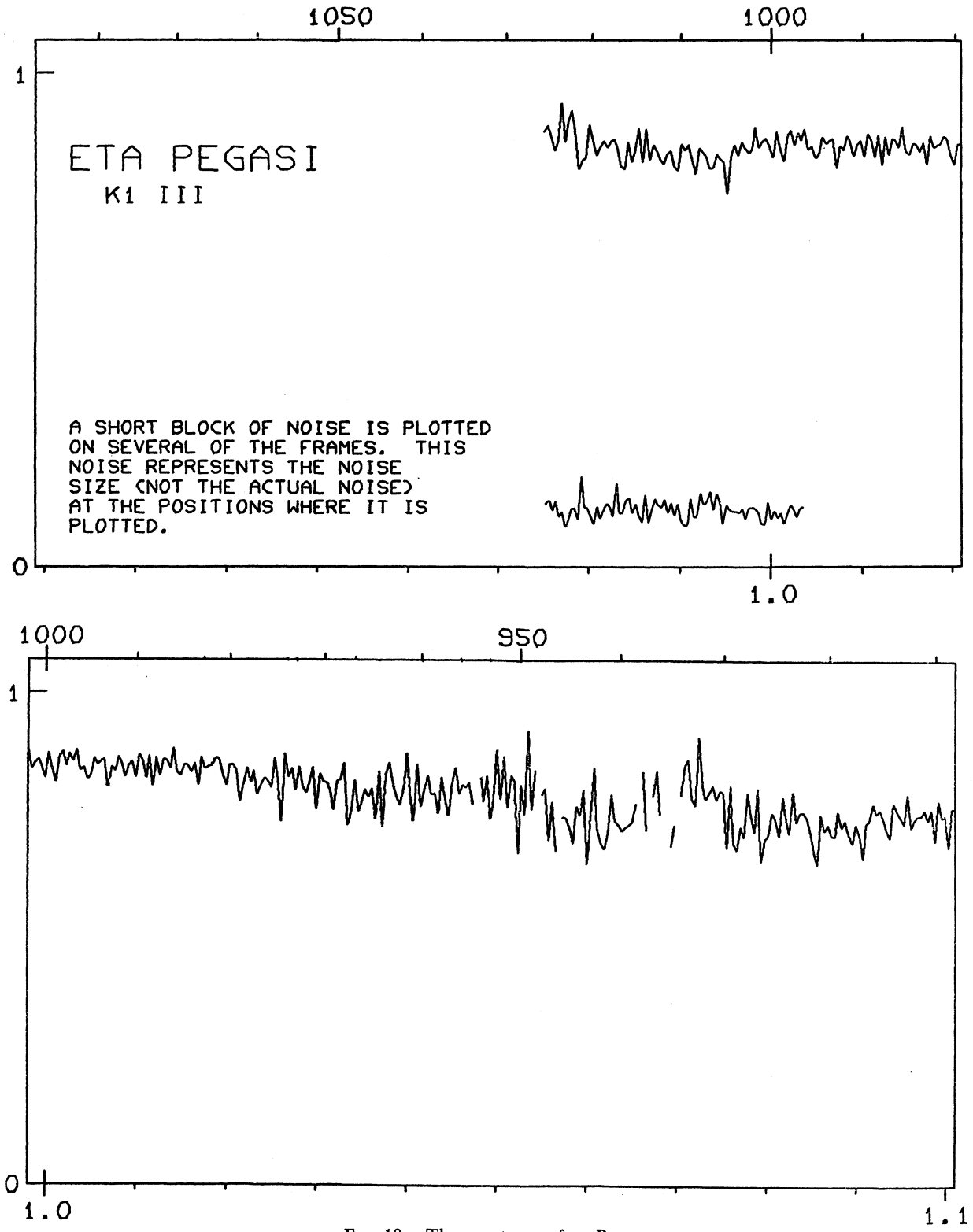


FIG. 18. The spectrum of η Peg.

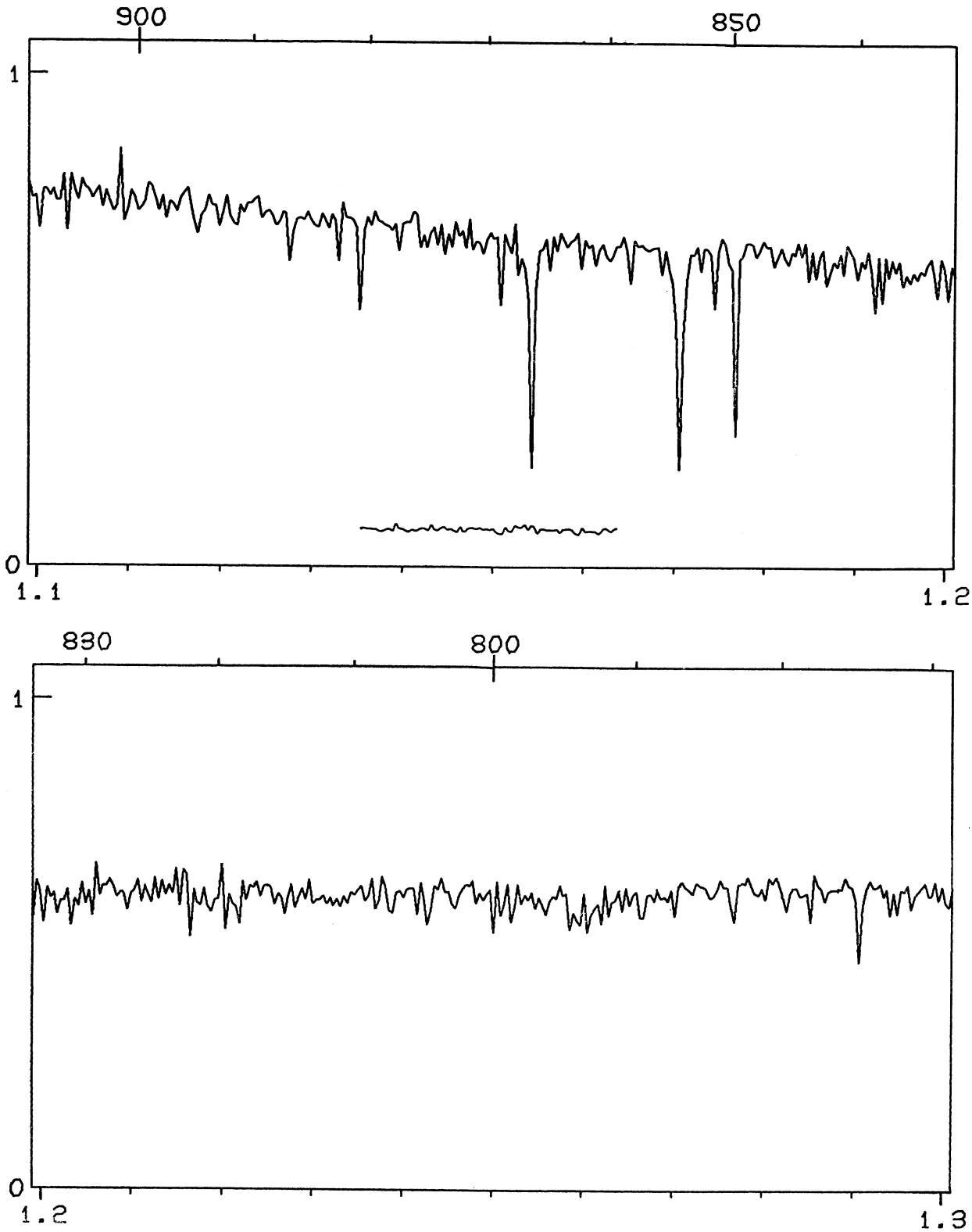


FIG. 18. The spectrum of η Peg.

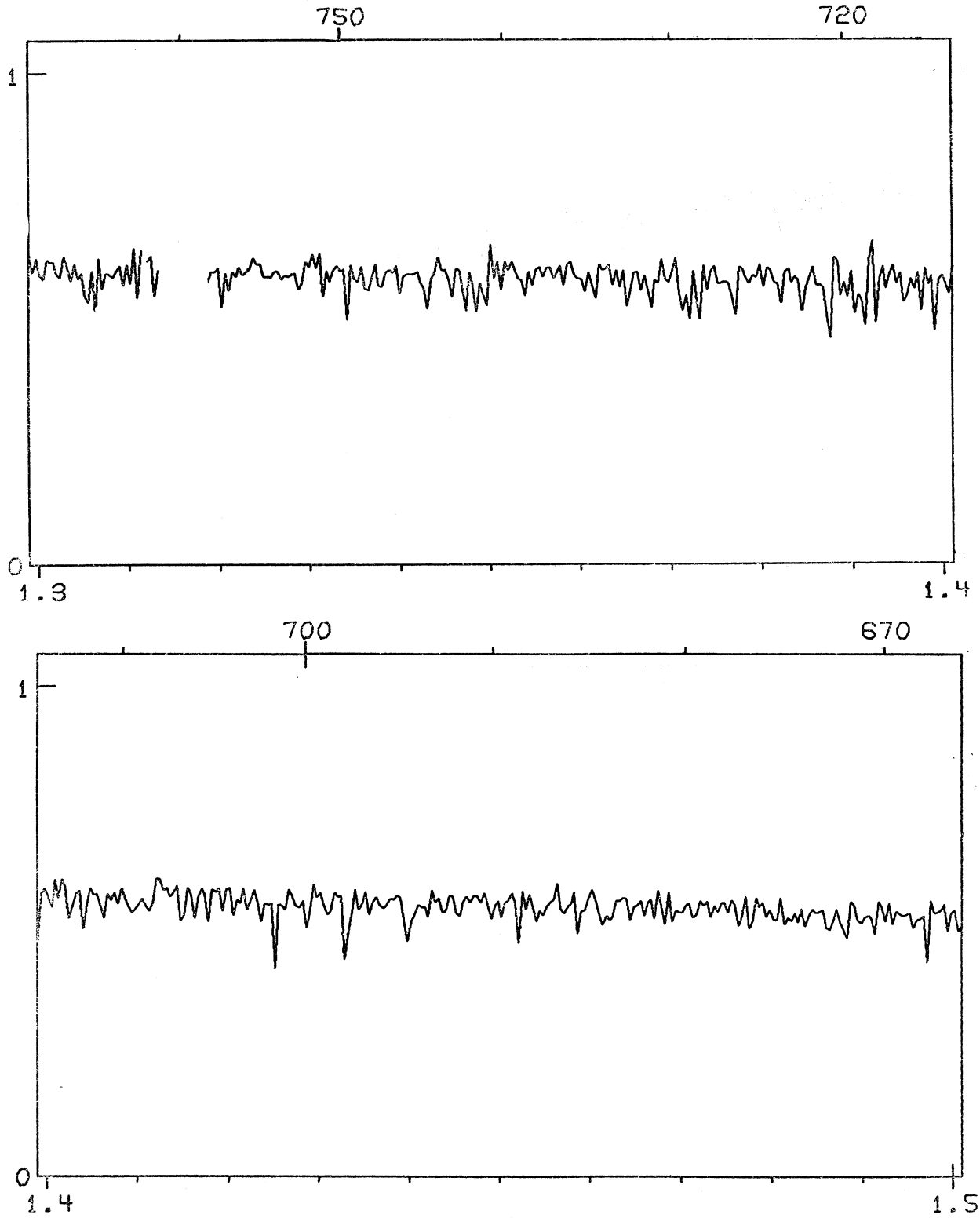


FIG. 18. The spectrum of η Peg.

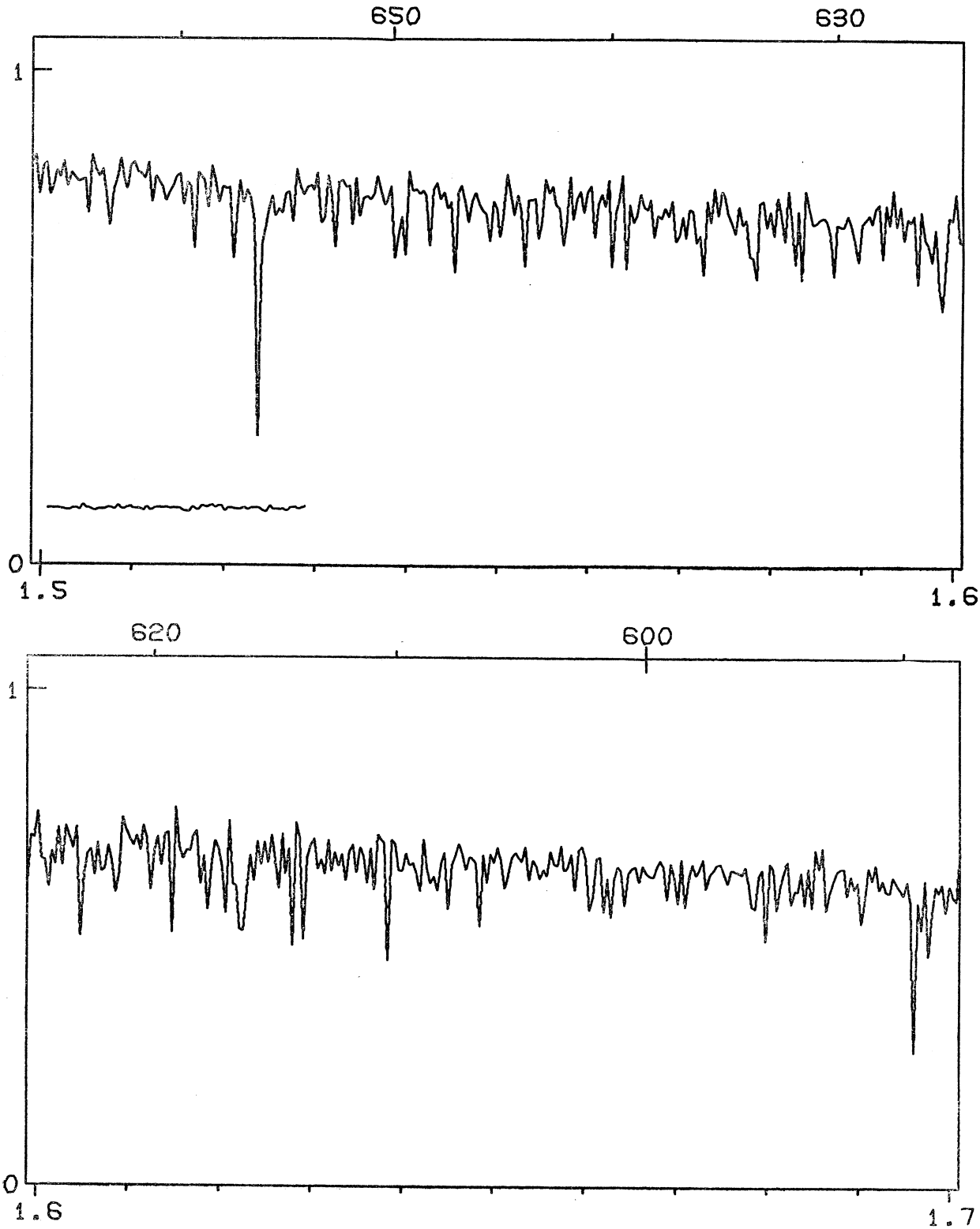


FIG. 18. The spectrum of η Peg.

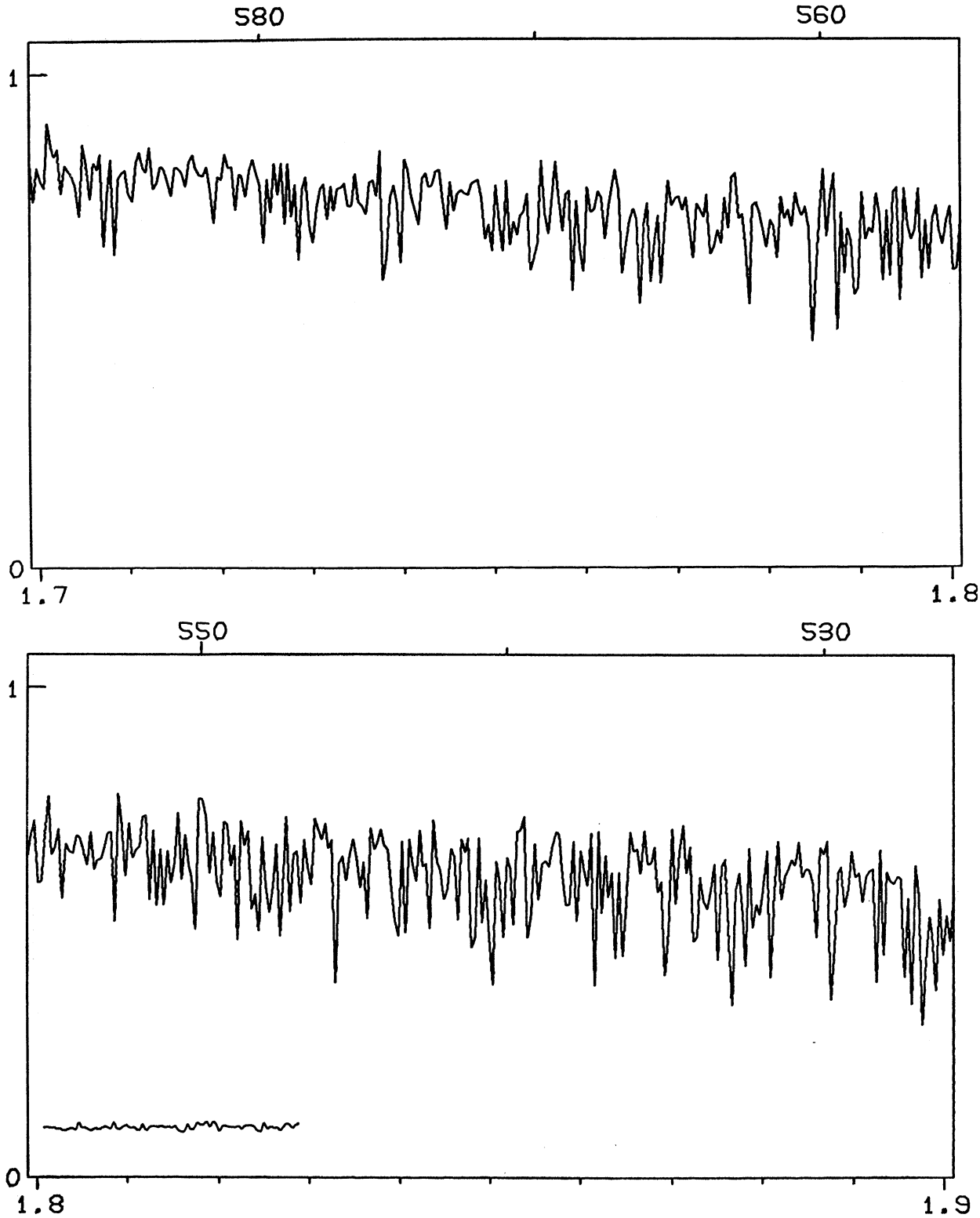


FIG. 18. The spectrum of η Peg.

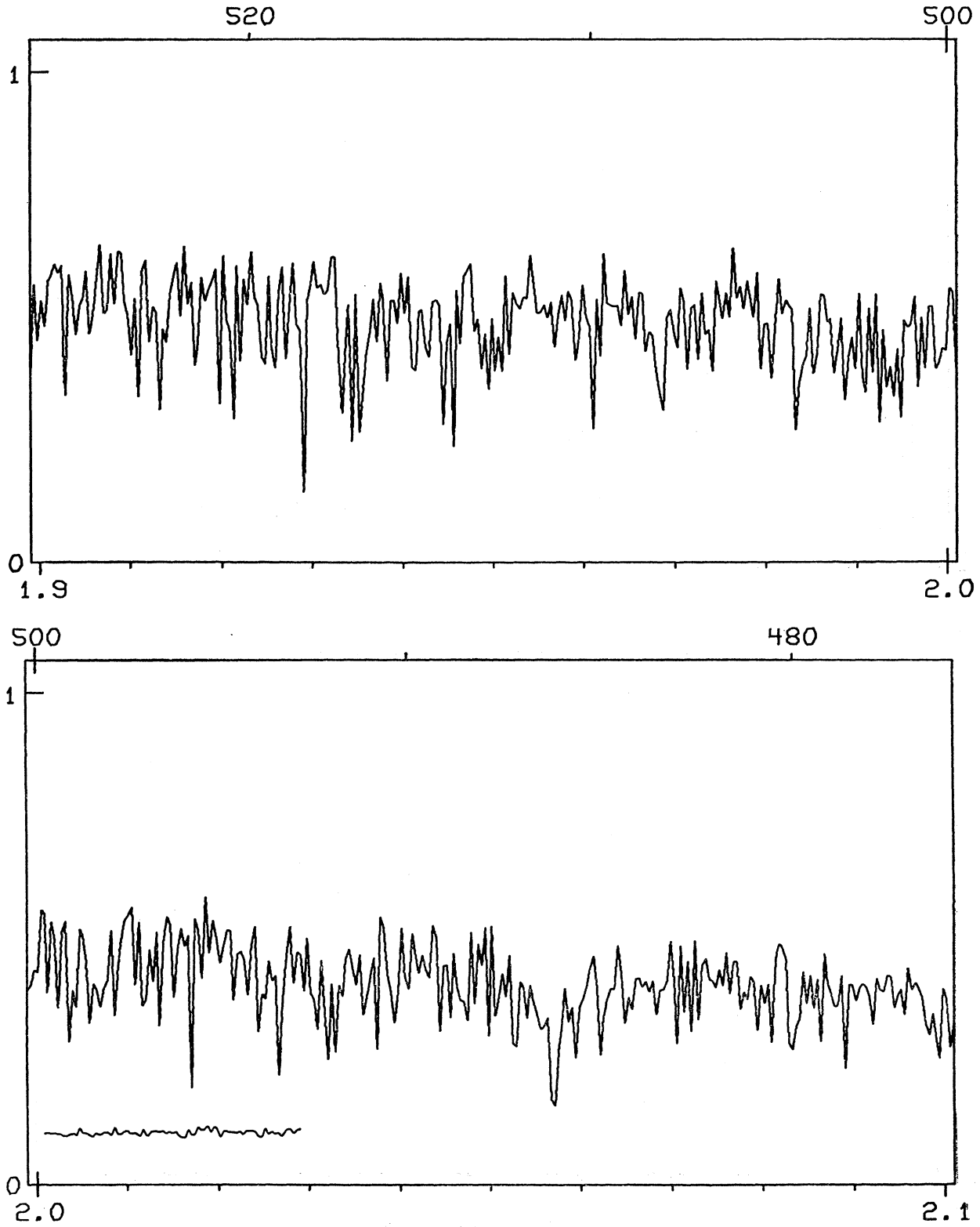


FIG. 18. The spectrum of η Peg.

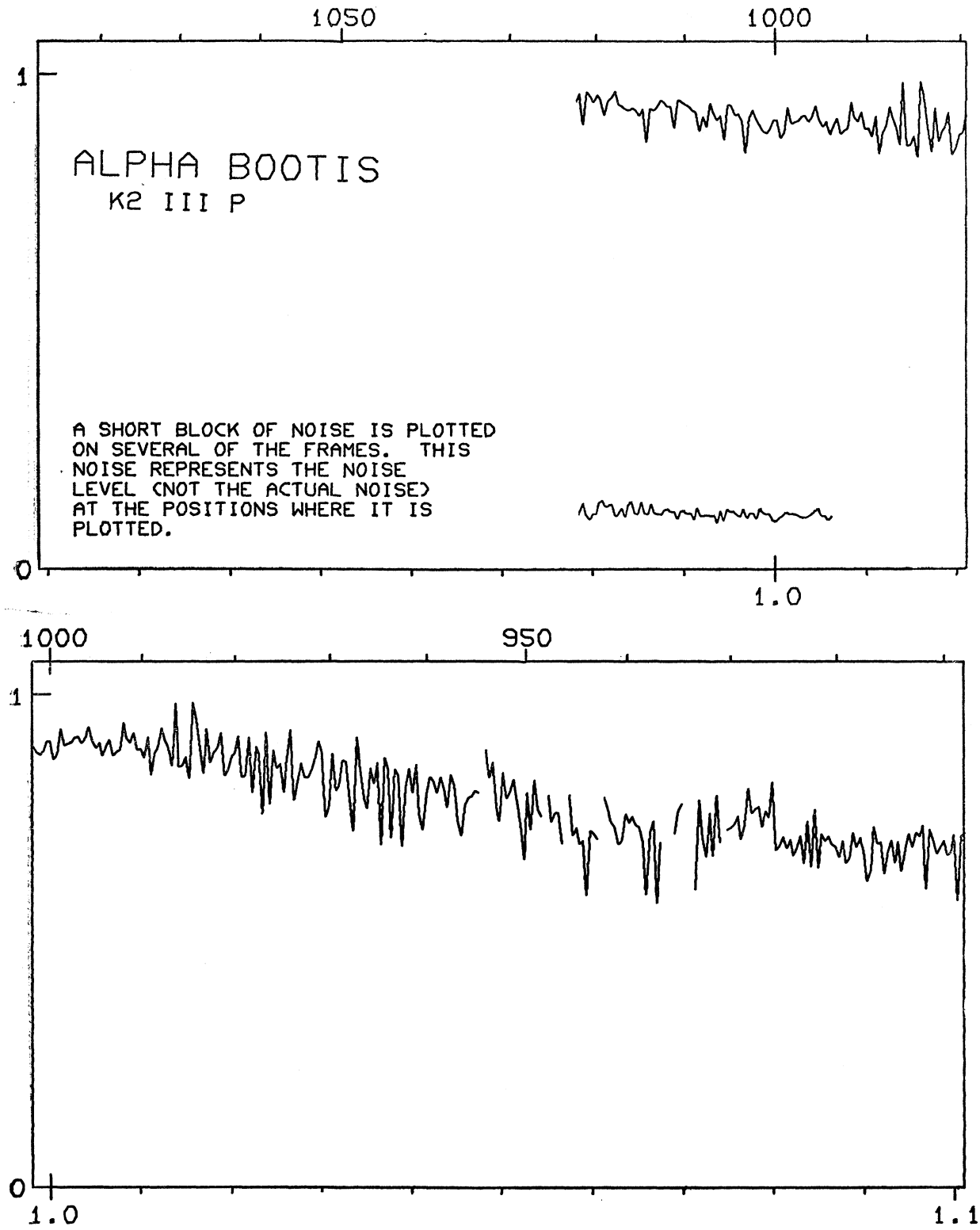


FIG. 19. The spectrum of α Boo.

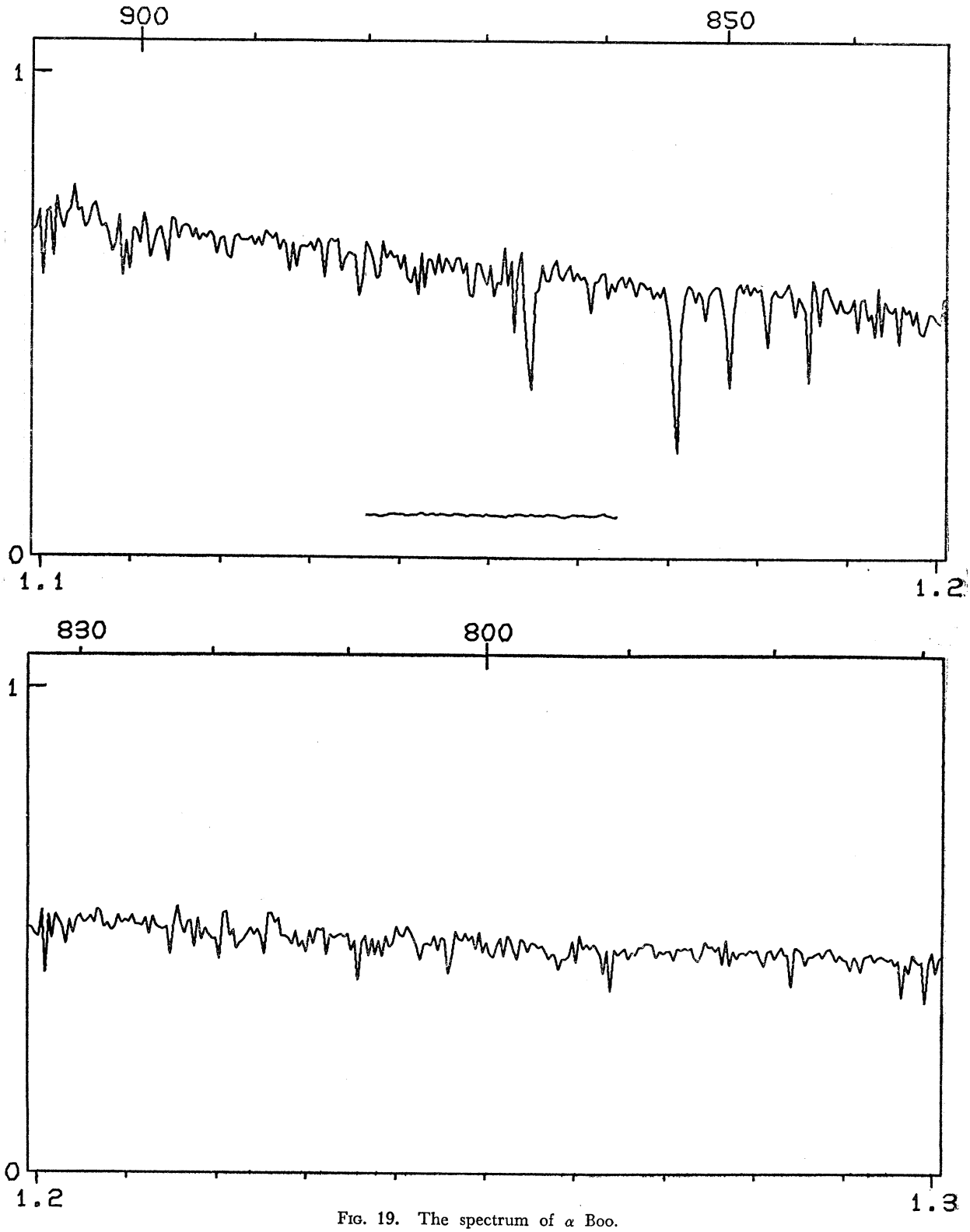


FIG. 19. The spectrum of α Boo.

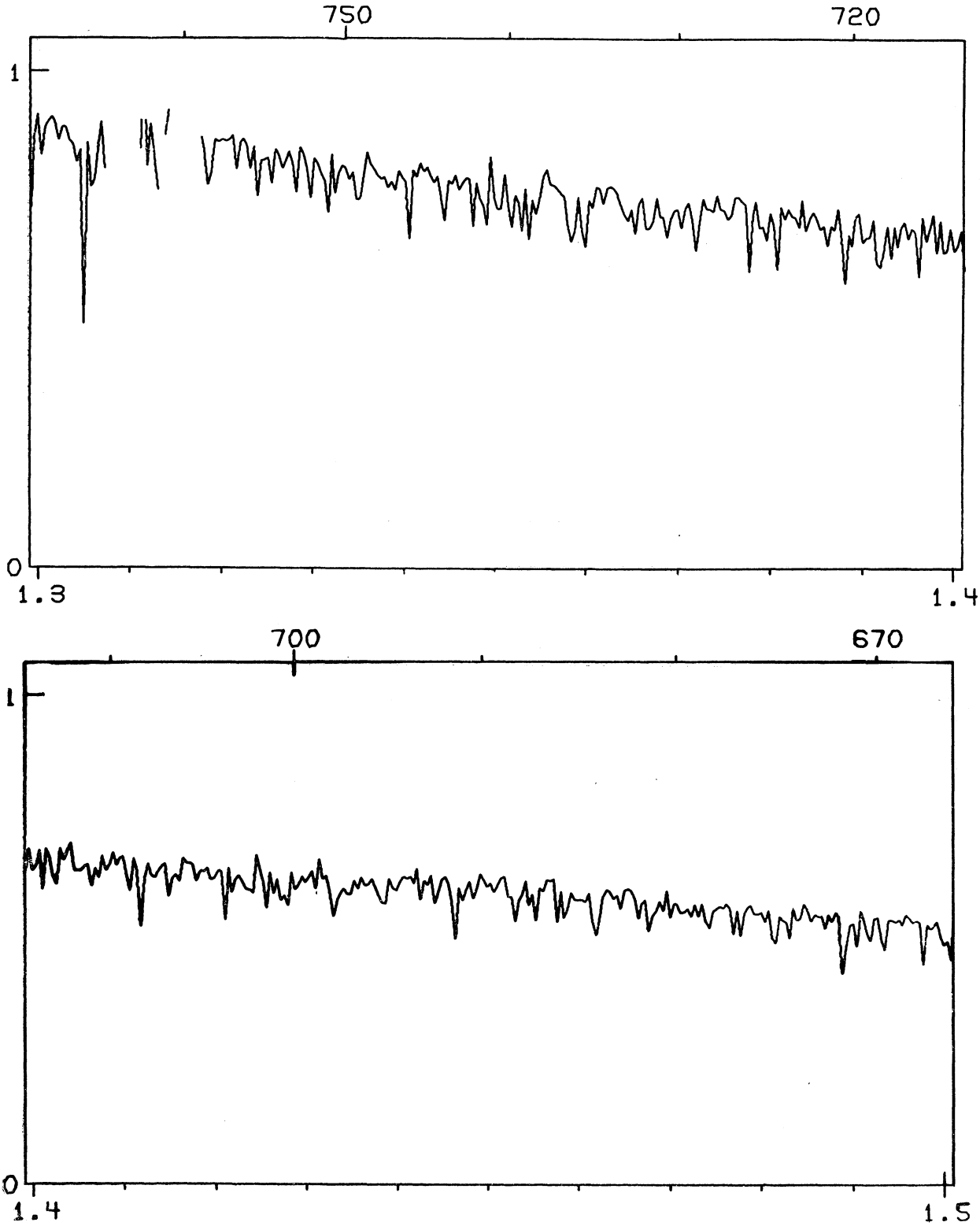


FIG. 19. The spectrum of α Boo.

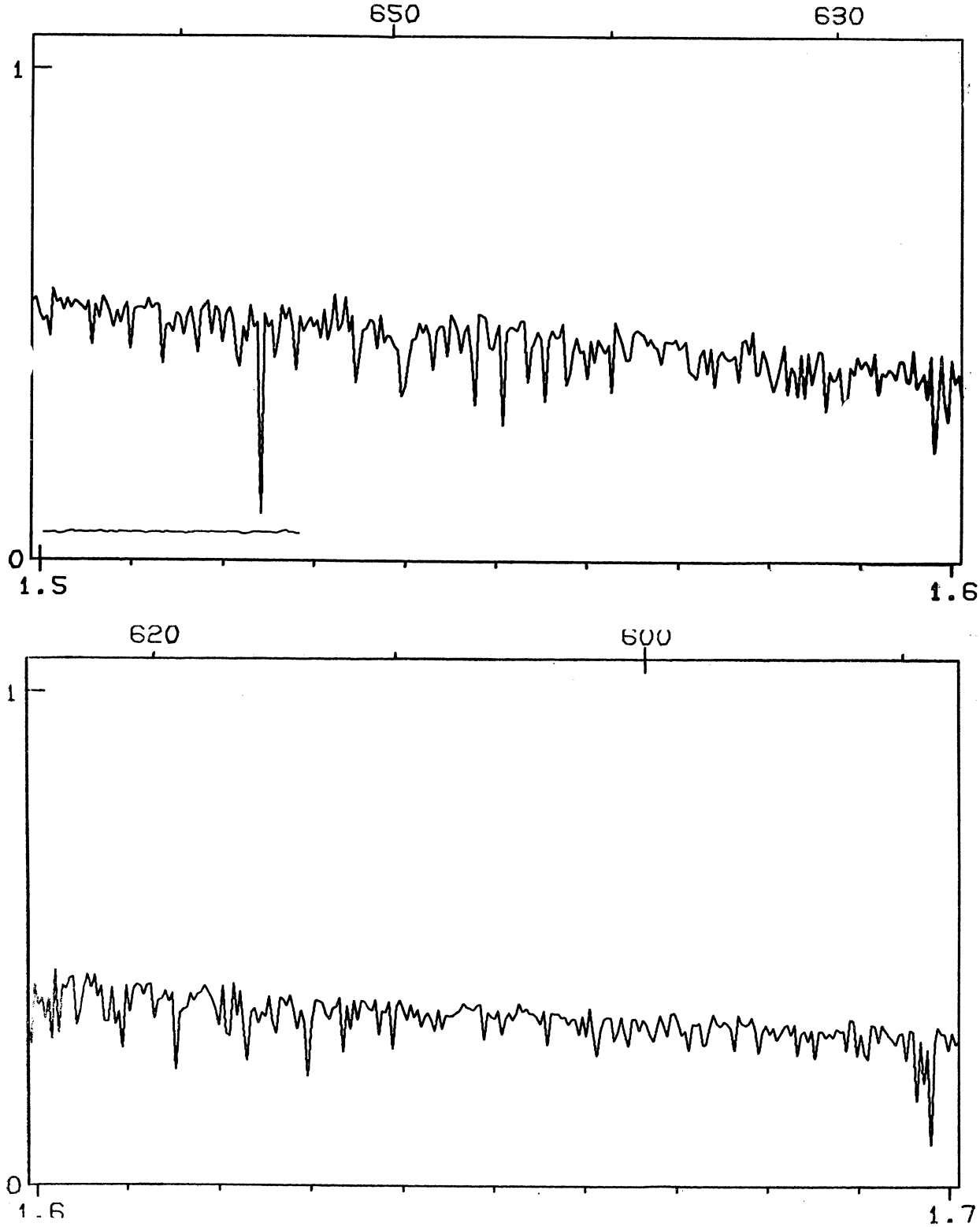


FIG. 19. The spectrum of α Boo.

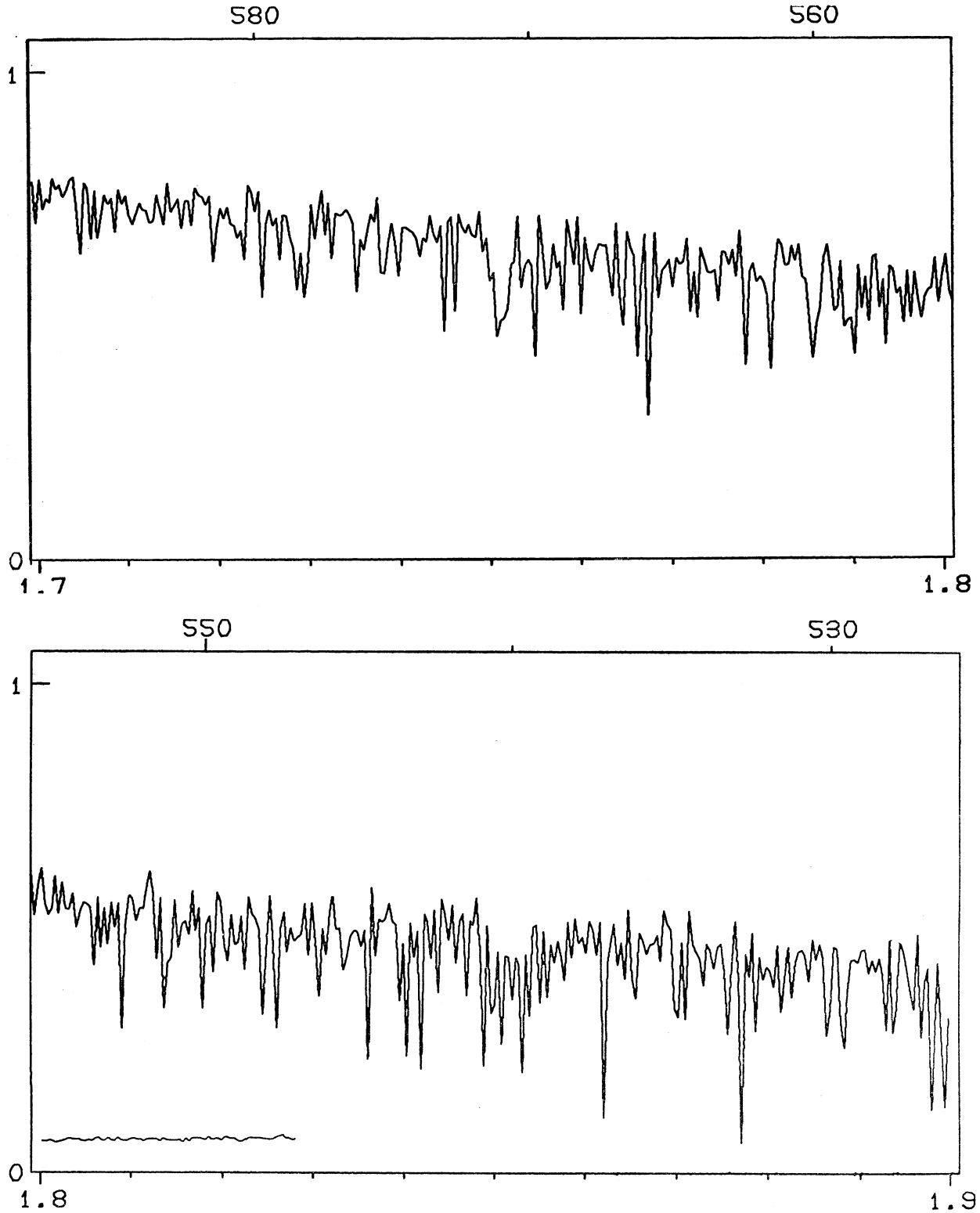


FIG. 19. The spectrum of α Boo.

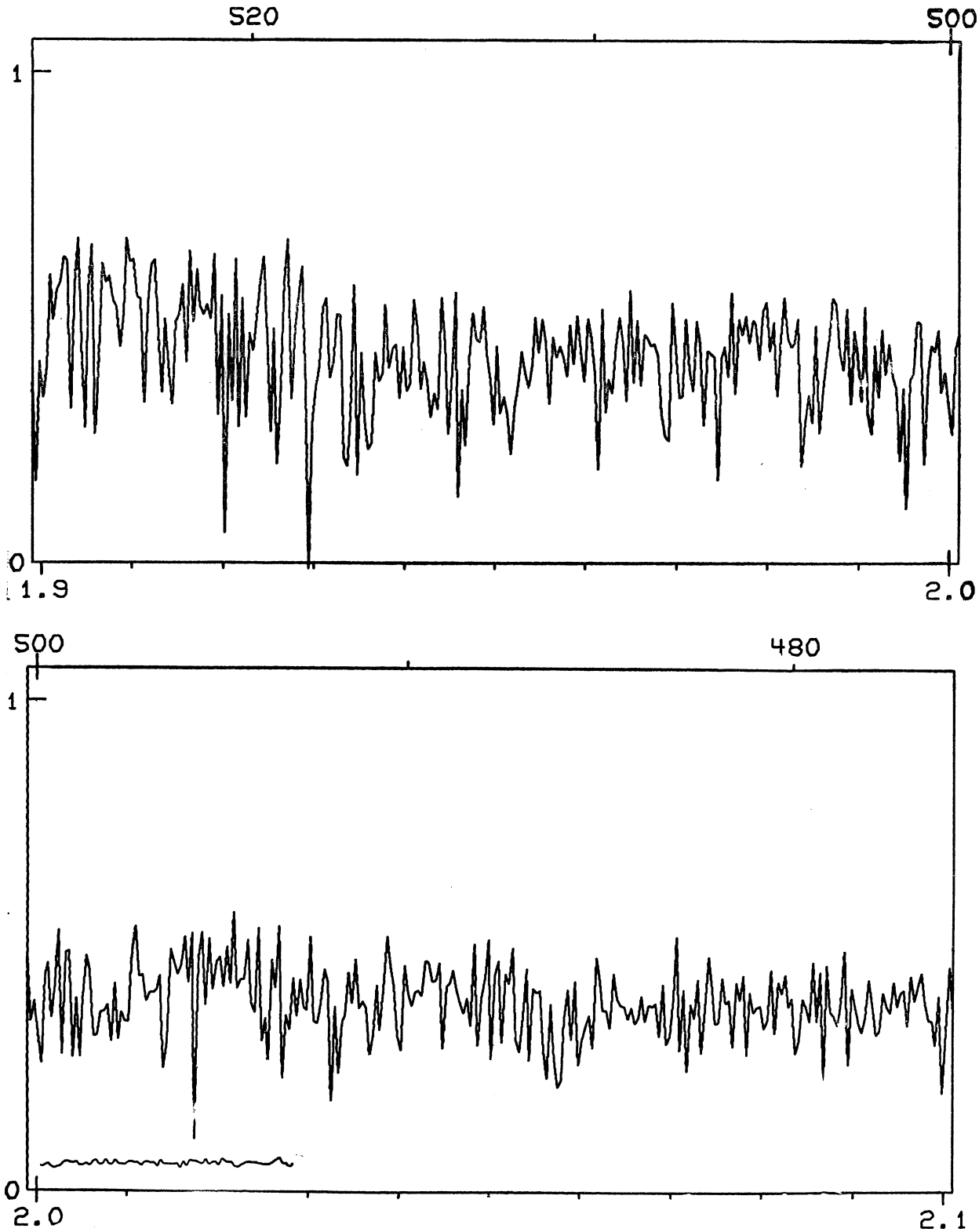


FIG. 19. The spectrum of α Boo.

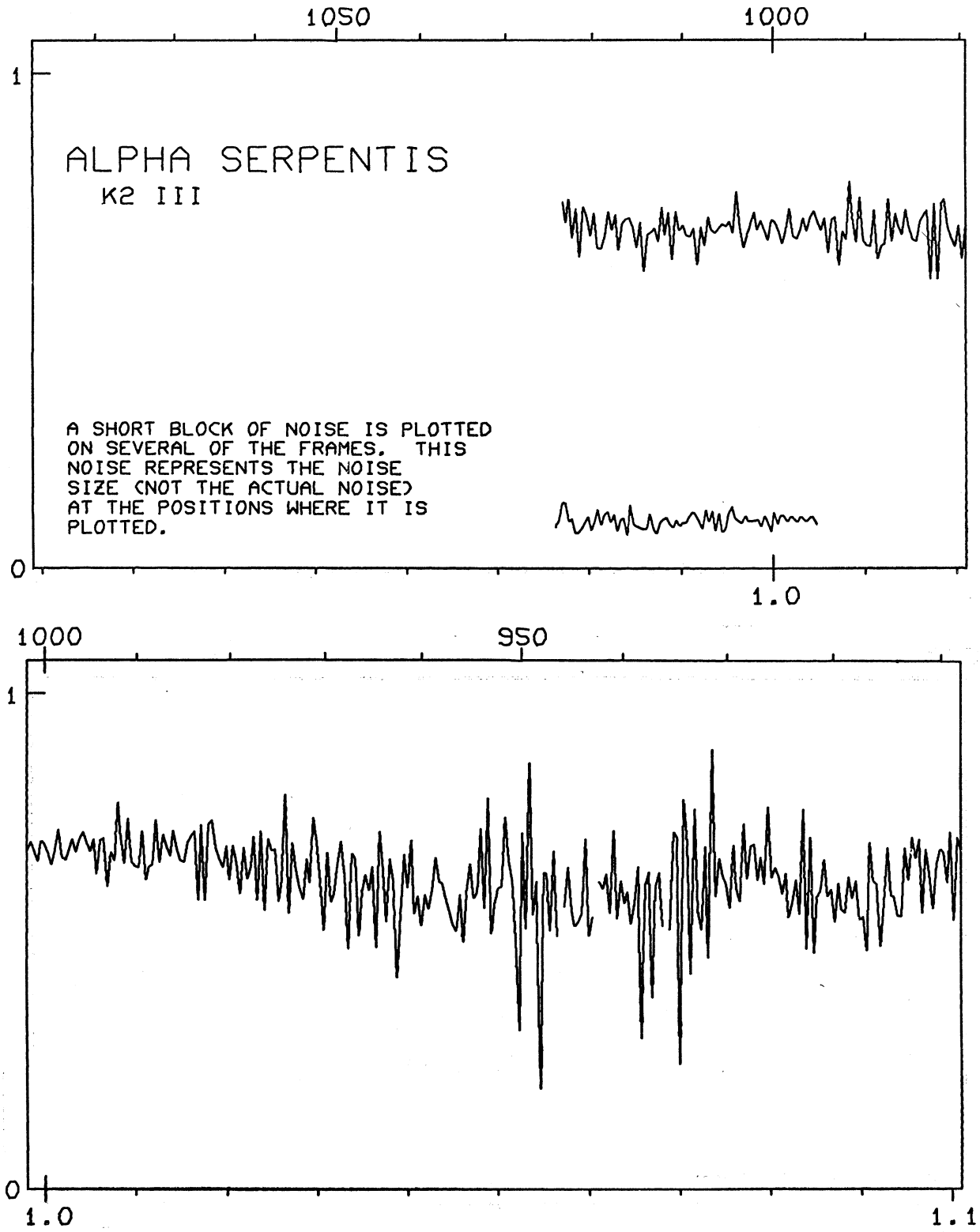


FIG. 20. The spectrum of α Ser.

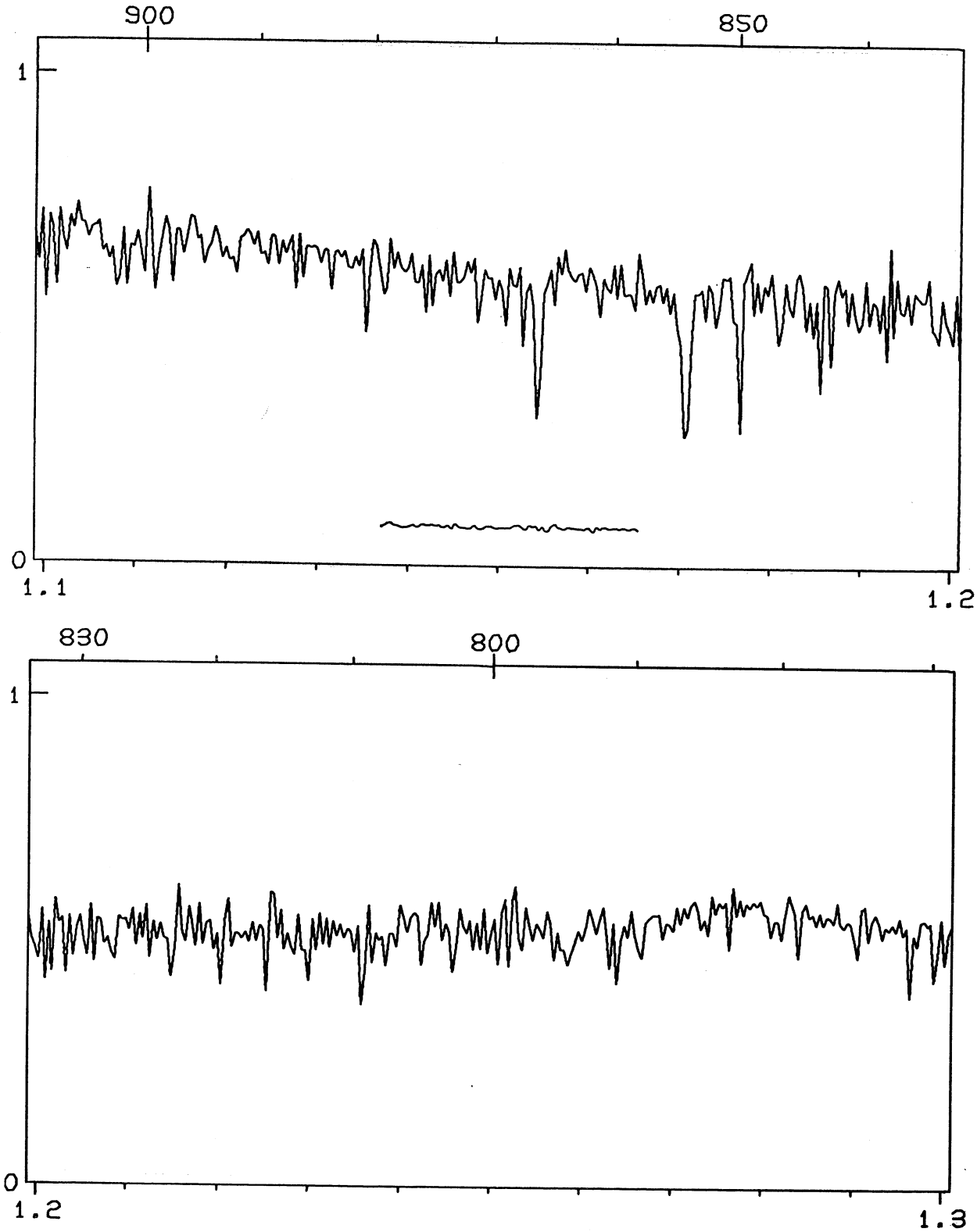


FIG. 20. The spectrum of α Ser.

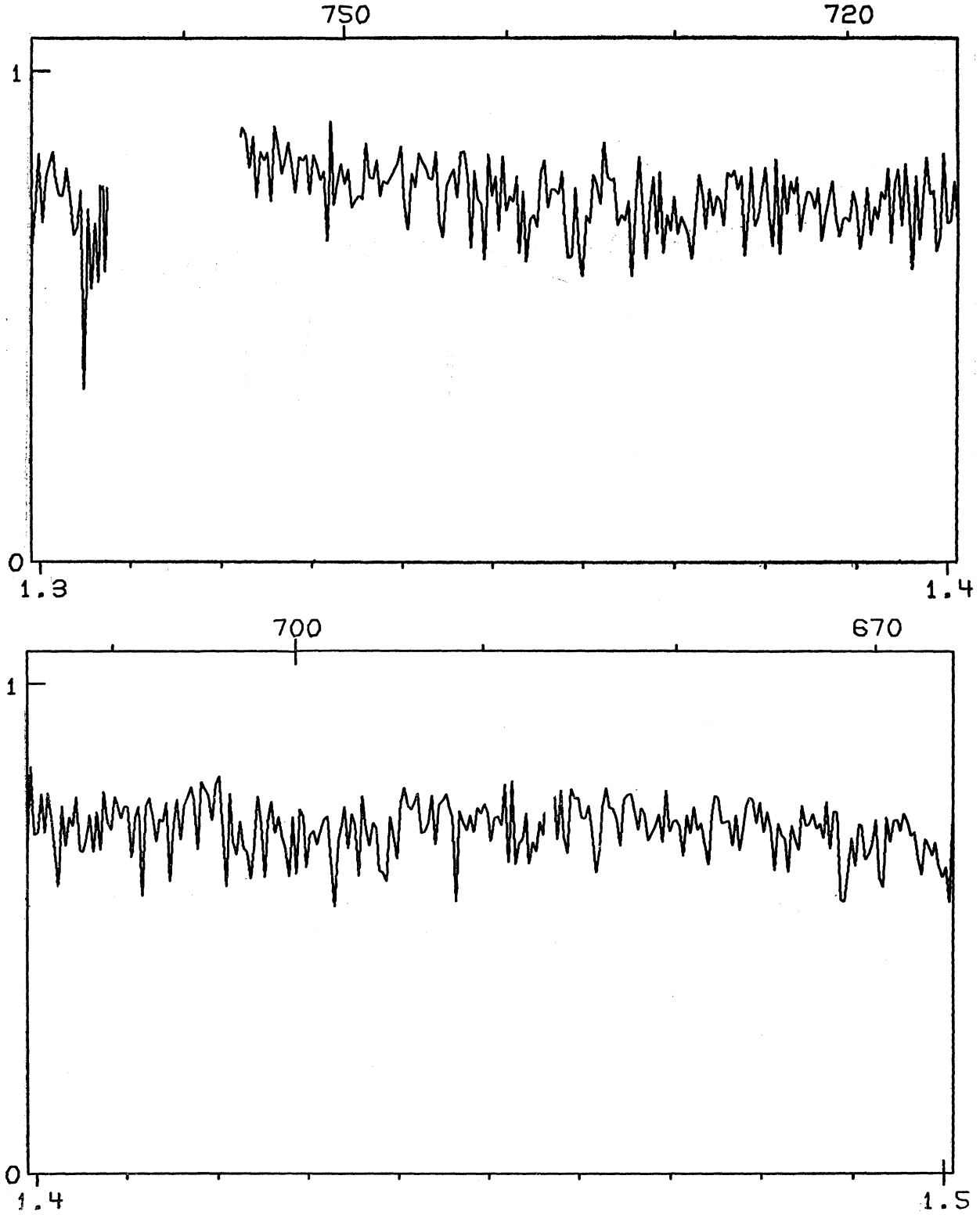


FIG. 20. The spectrum of α Ser.

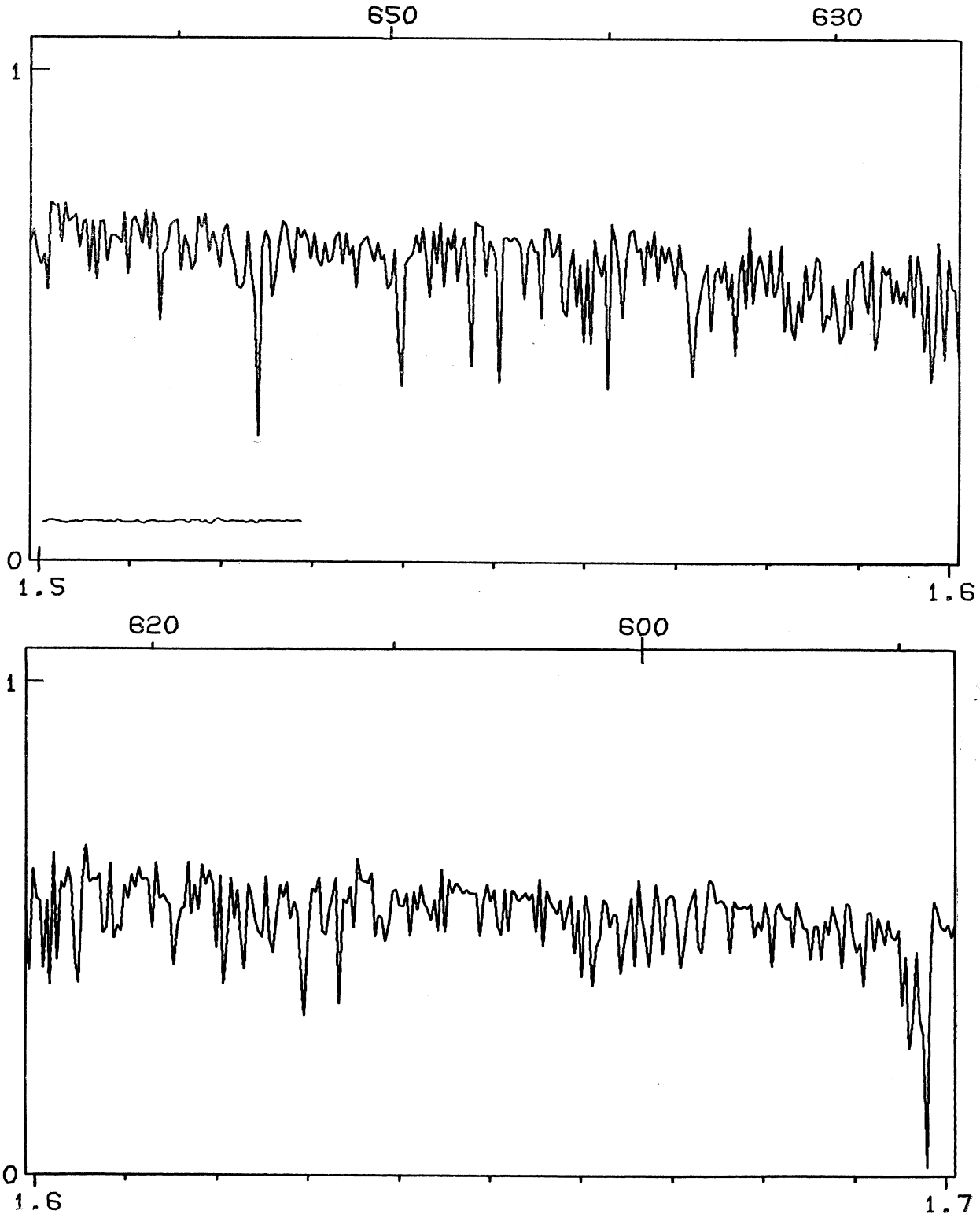


FIG. 20. The spectrum of α Ser.

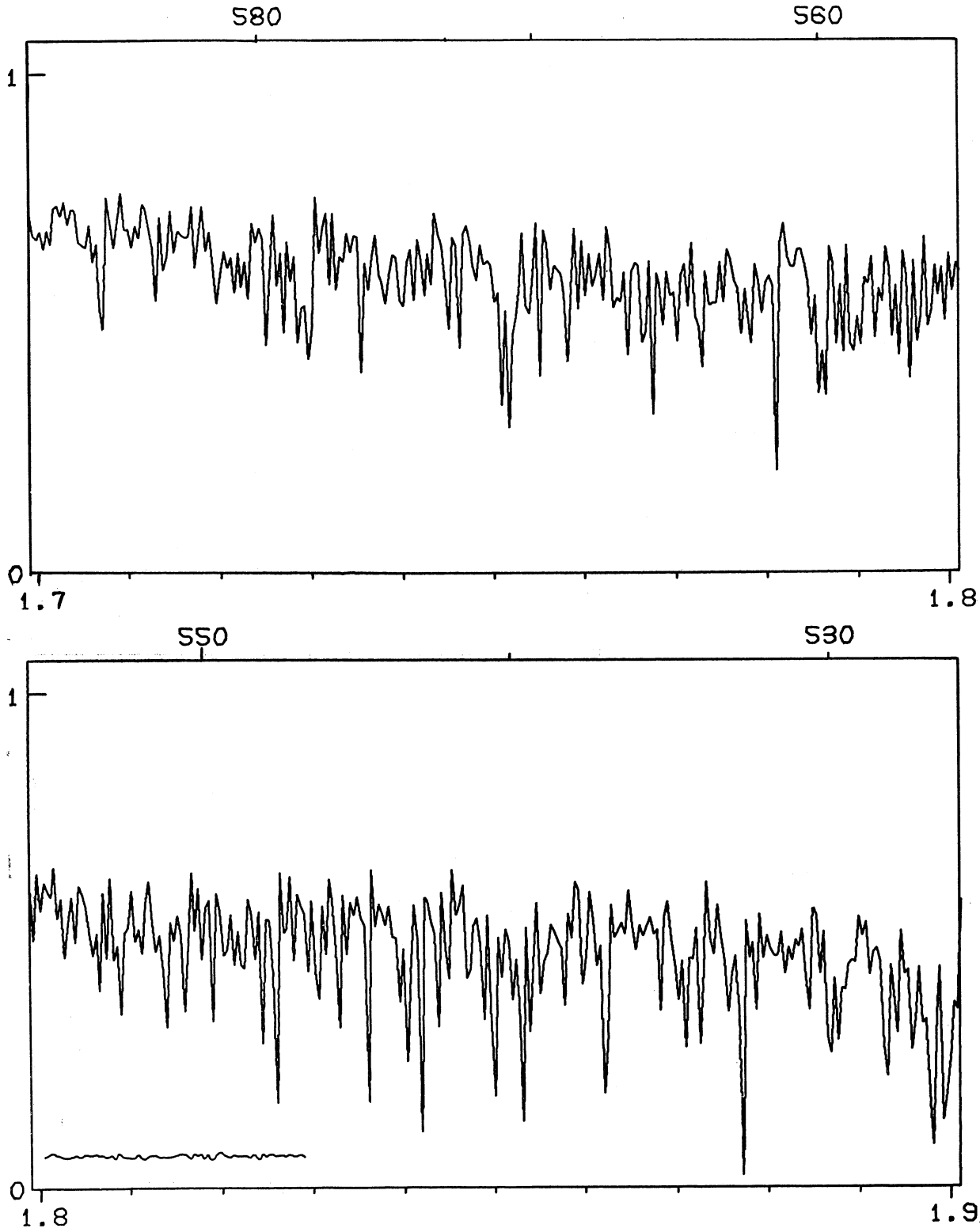


FIG. 20. The spectrum of α Ser.

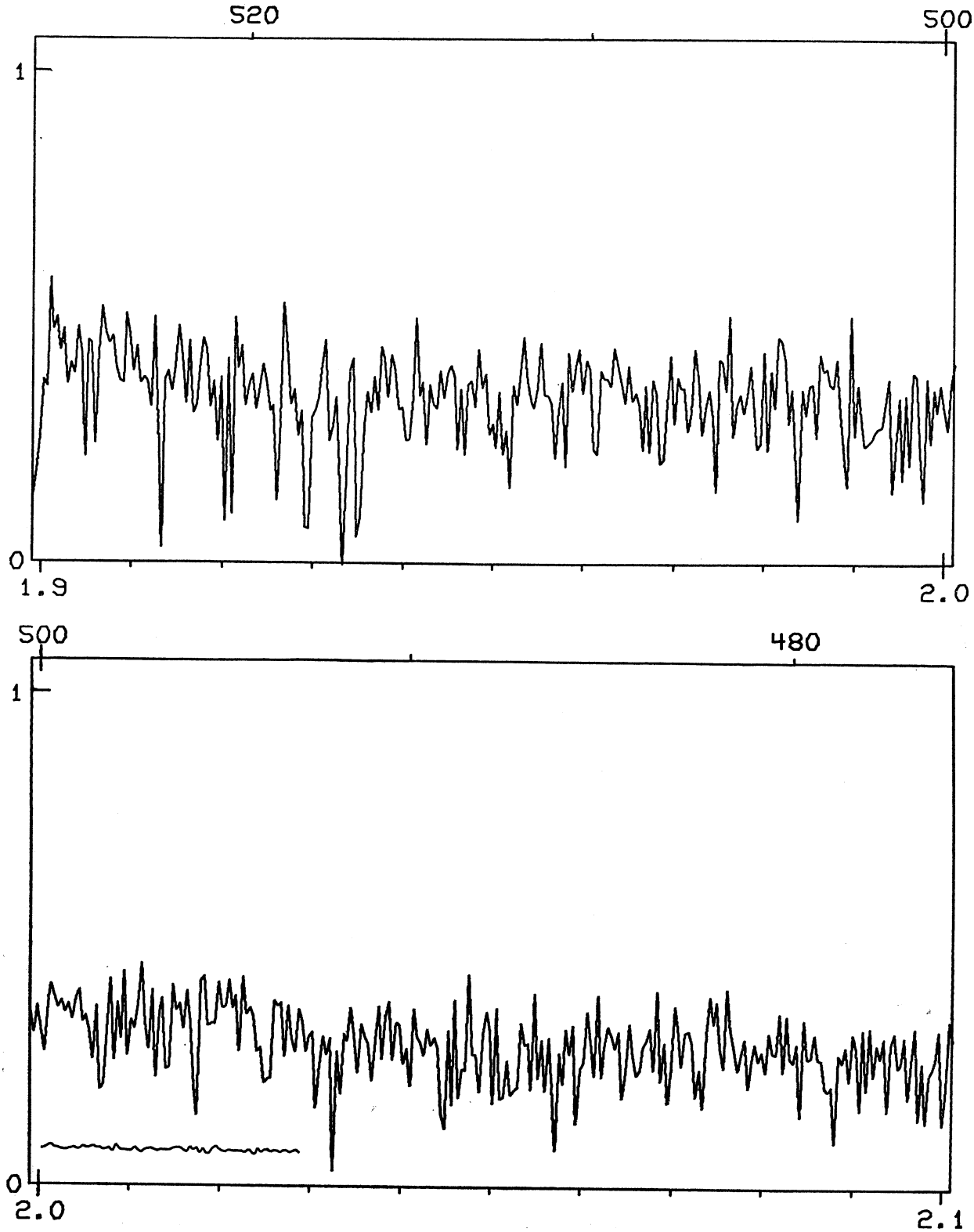


FIG. 20. The spectrum of α Ser.

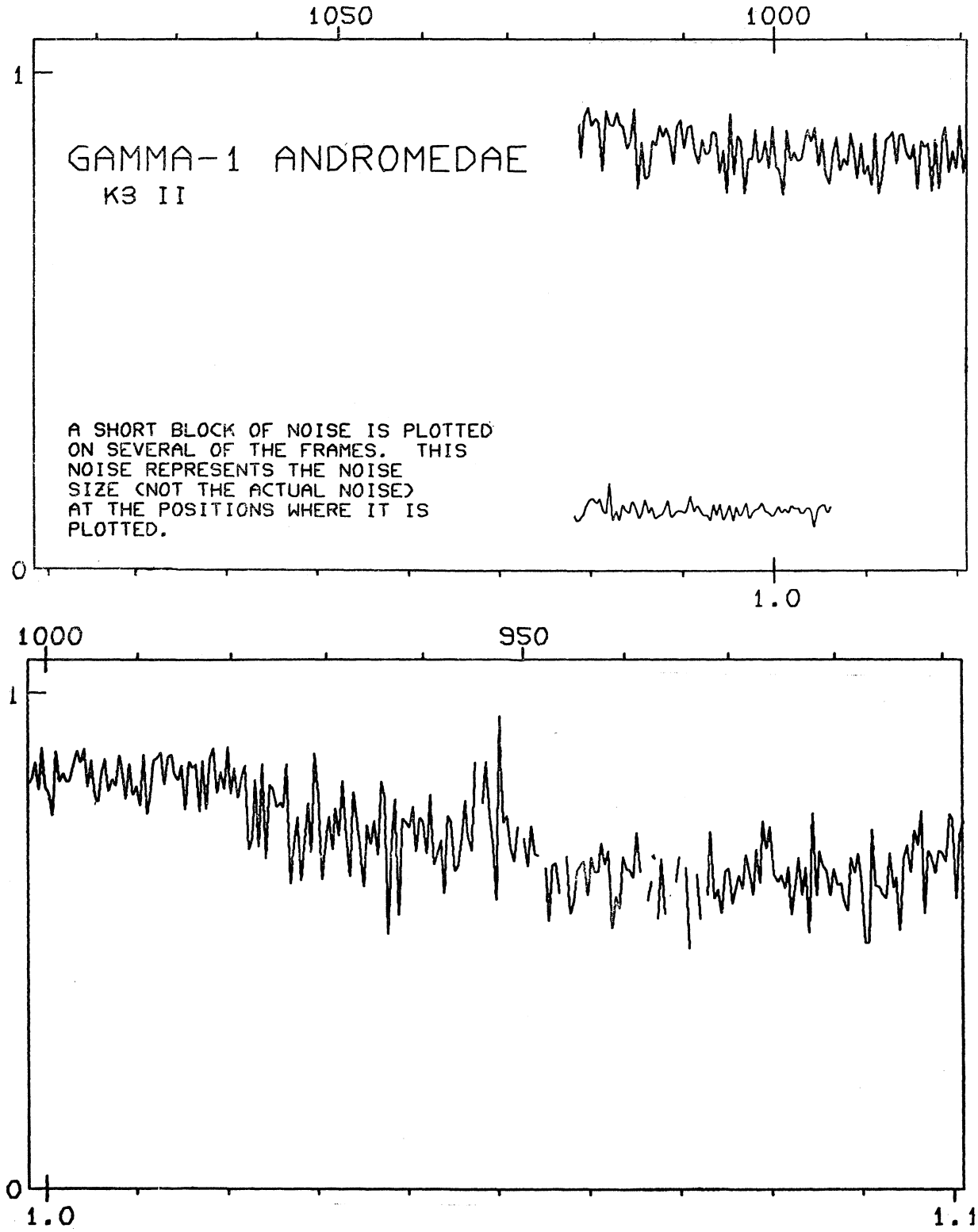


FIG. 21. The spectrum of γ^1 And.

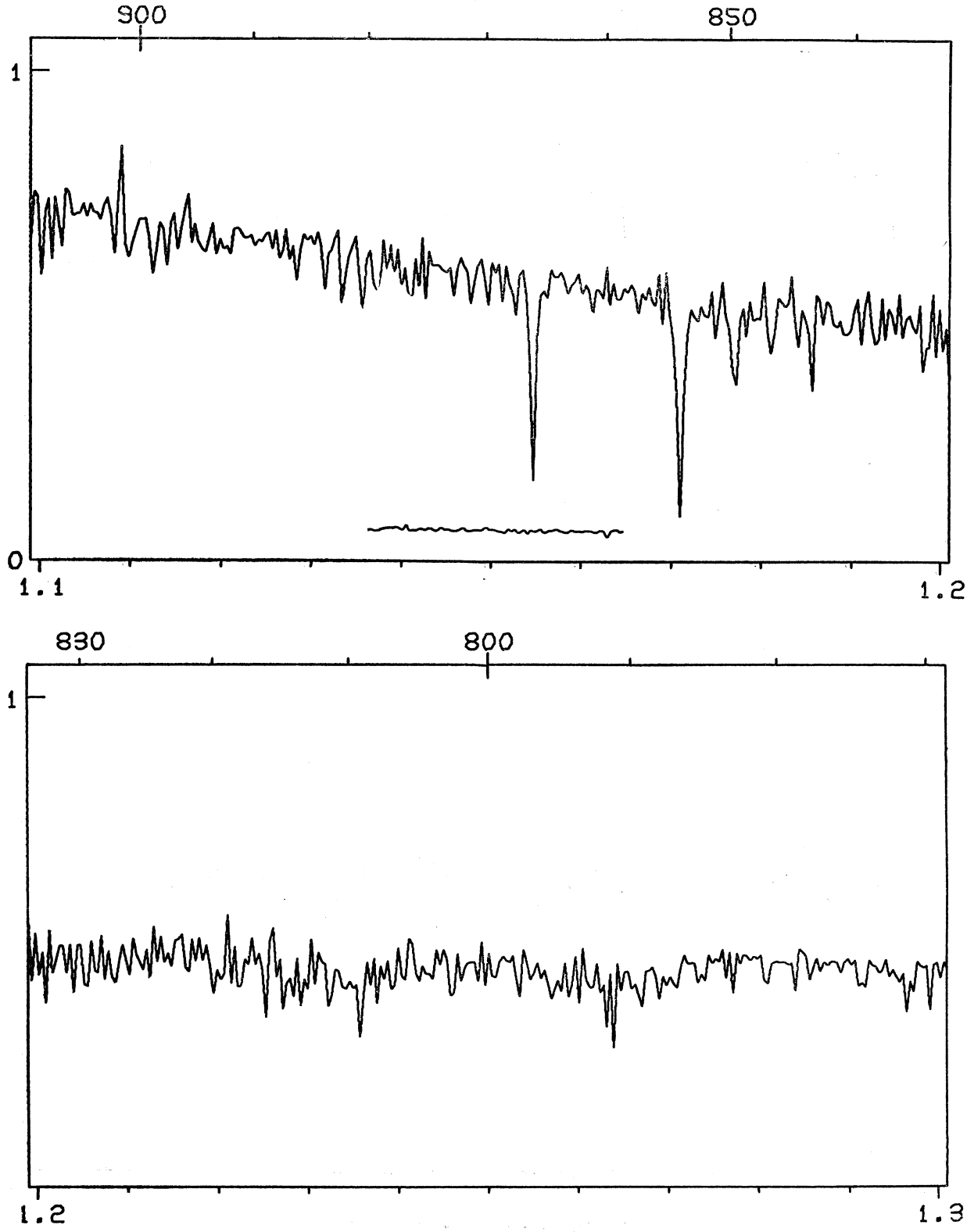


FIG. 21. The spectrum of γ^1 And.

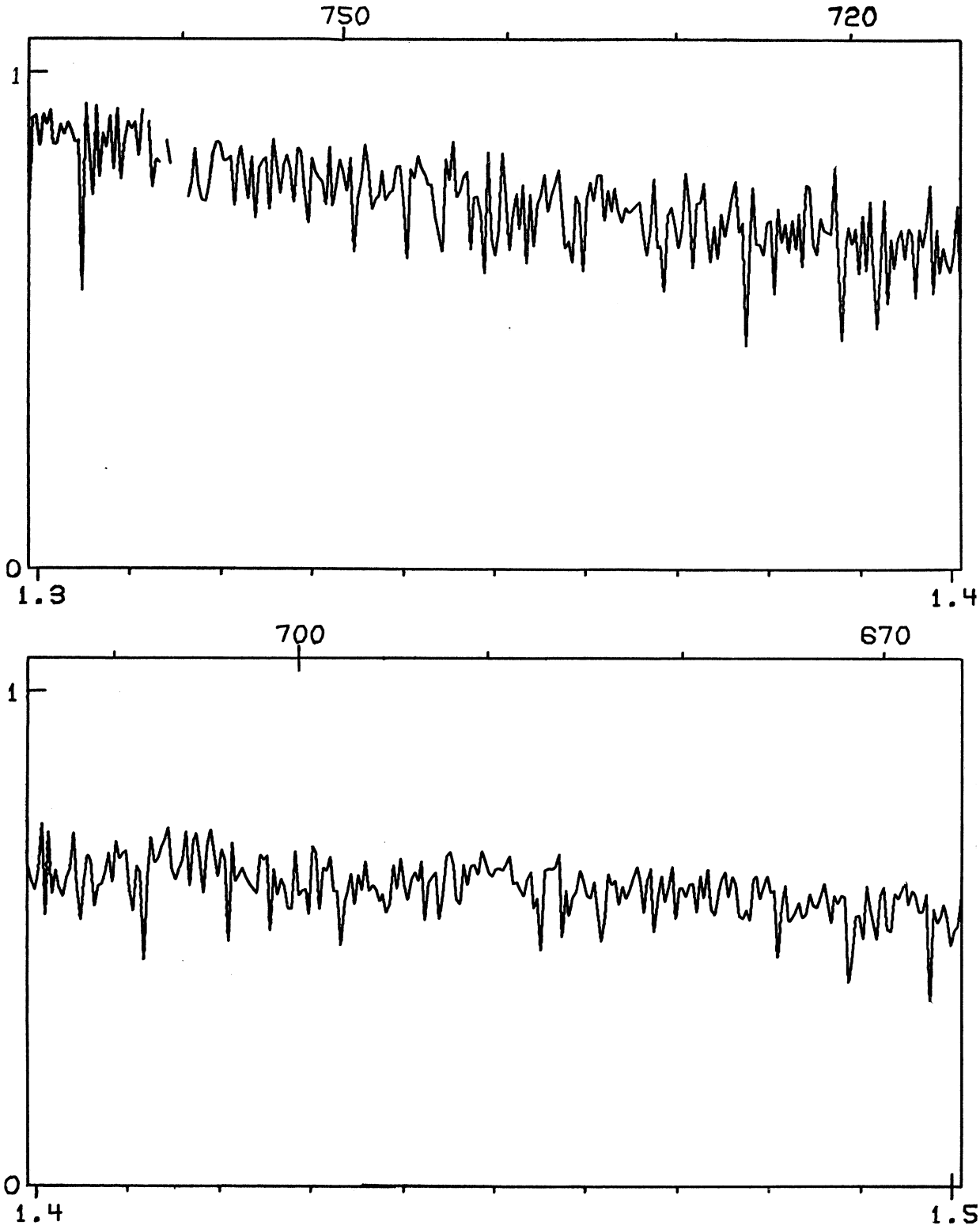


FIG. 21. The spectrum of γ^1 And.

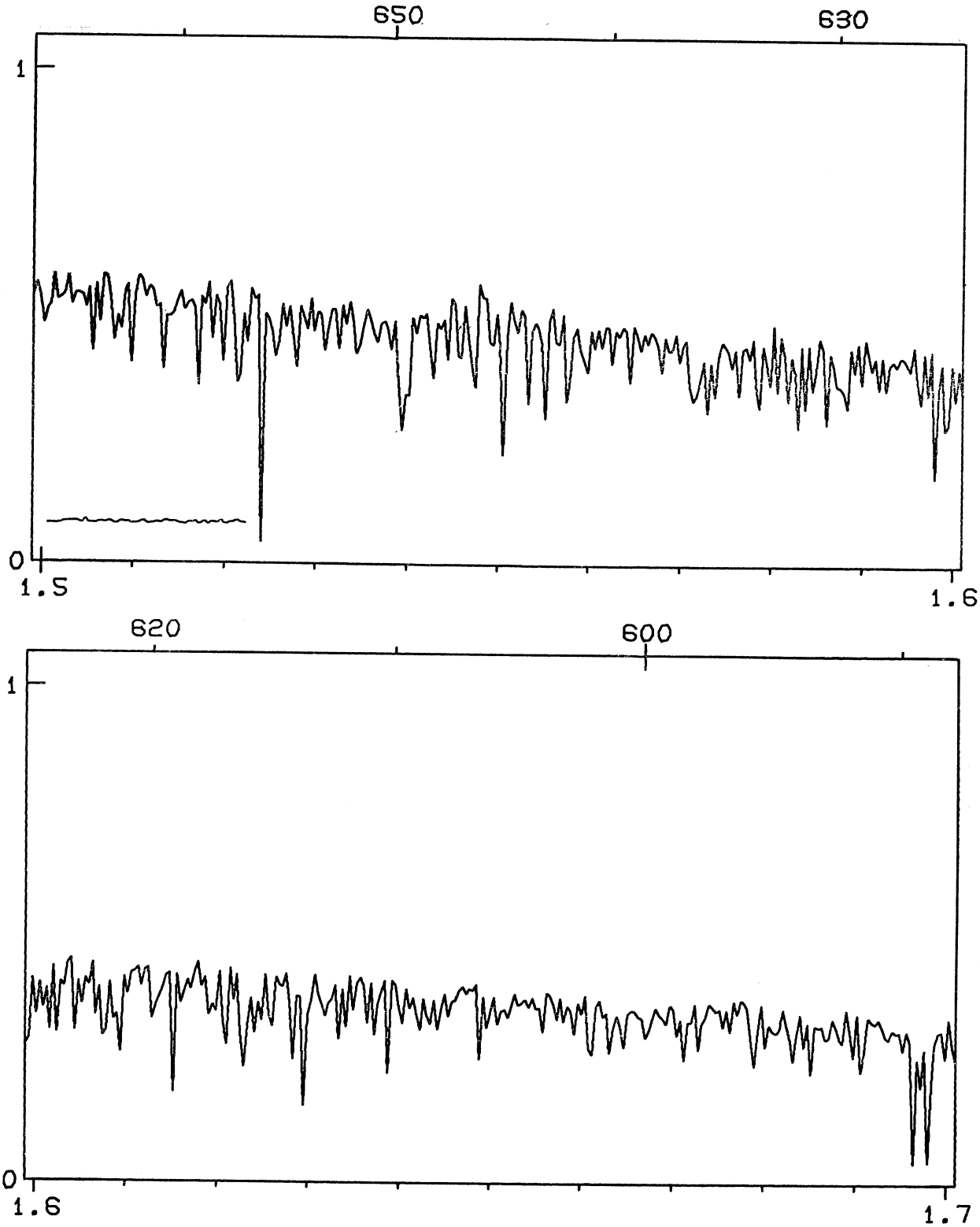


FIG. 21. The spectrum of γ^1 And.

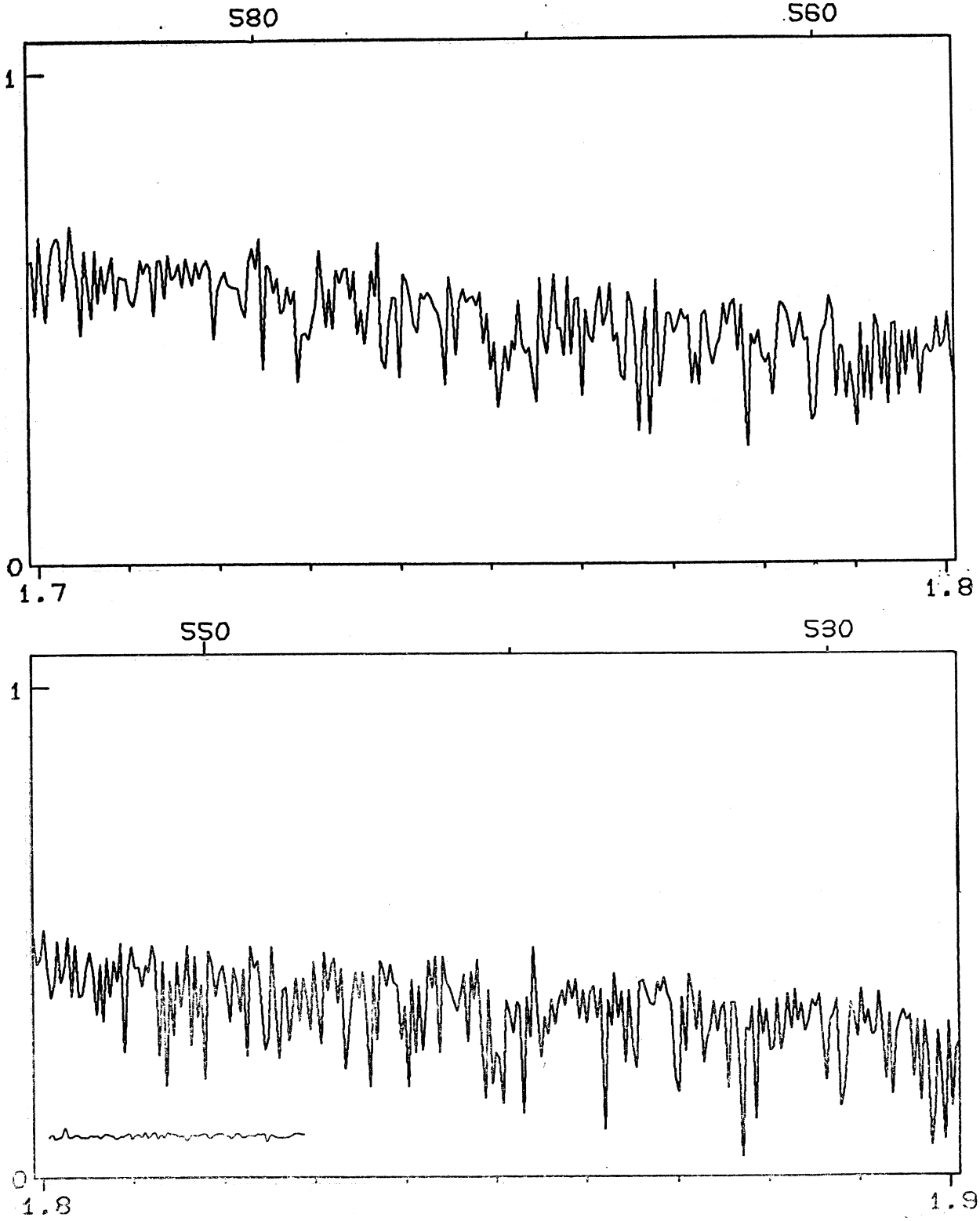


FIG. 21. The spectrum of γ^1 And.

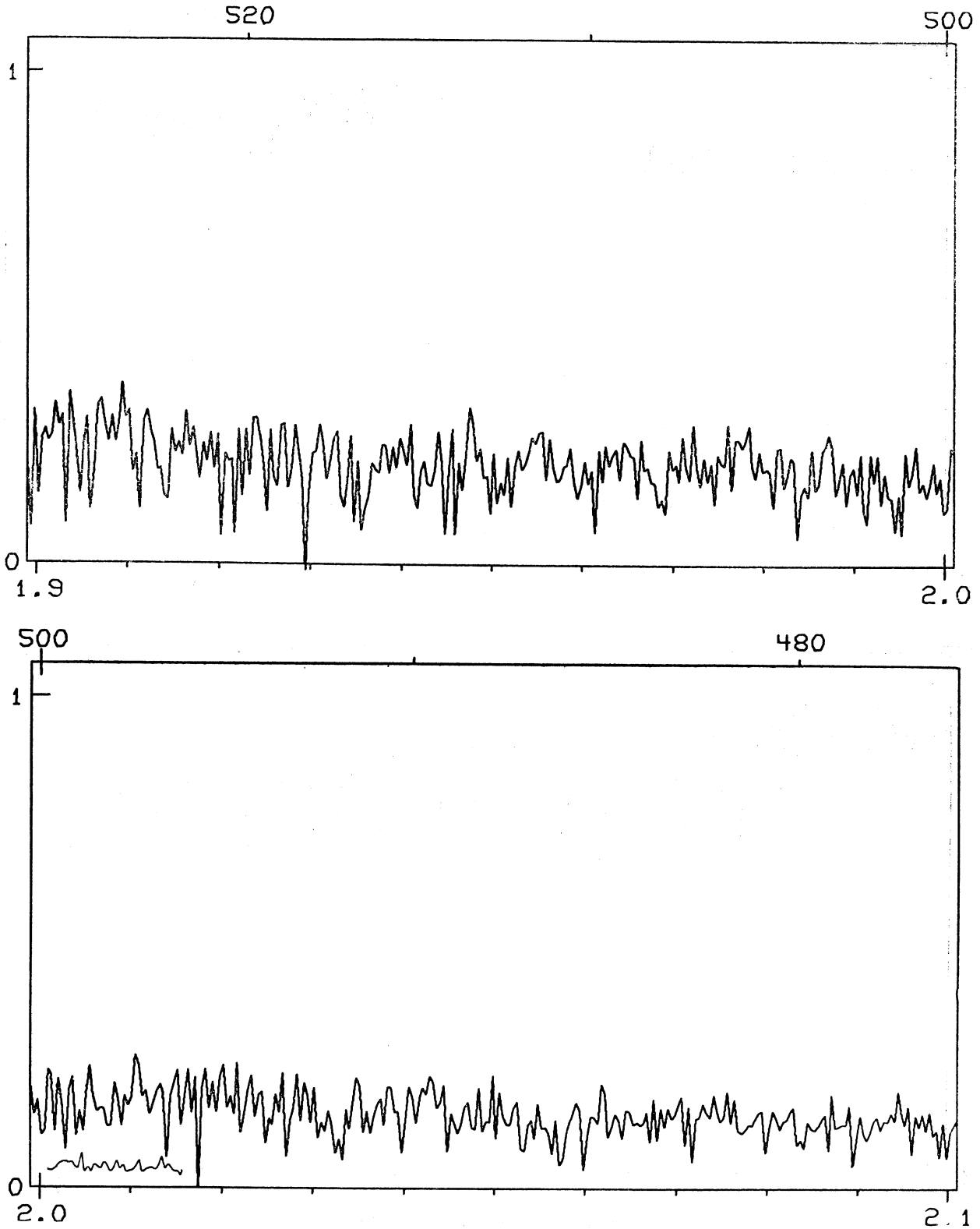


FIG. 21. The spectrum of γ^1 And.

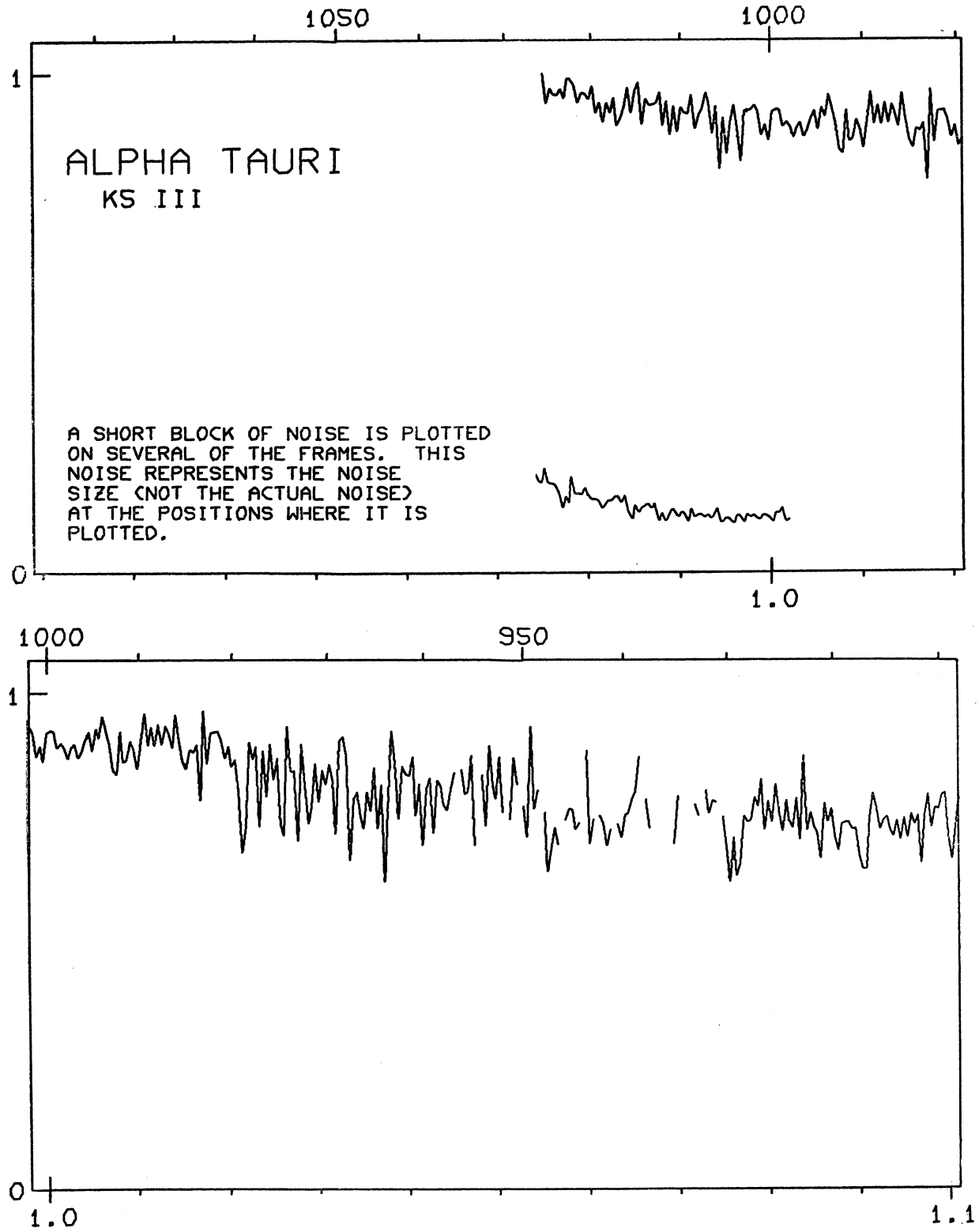


FIG. 22. The spectrum of α Tau.

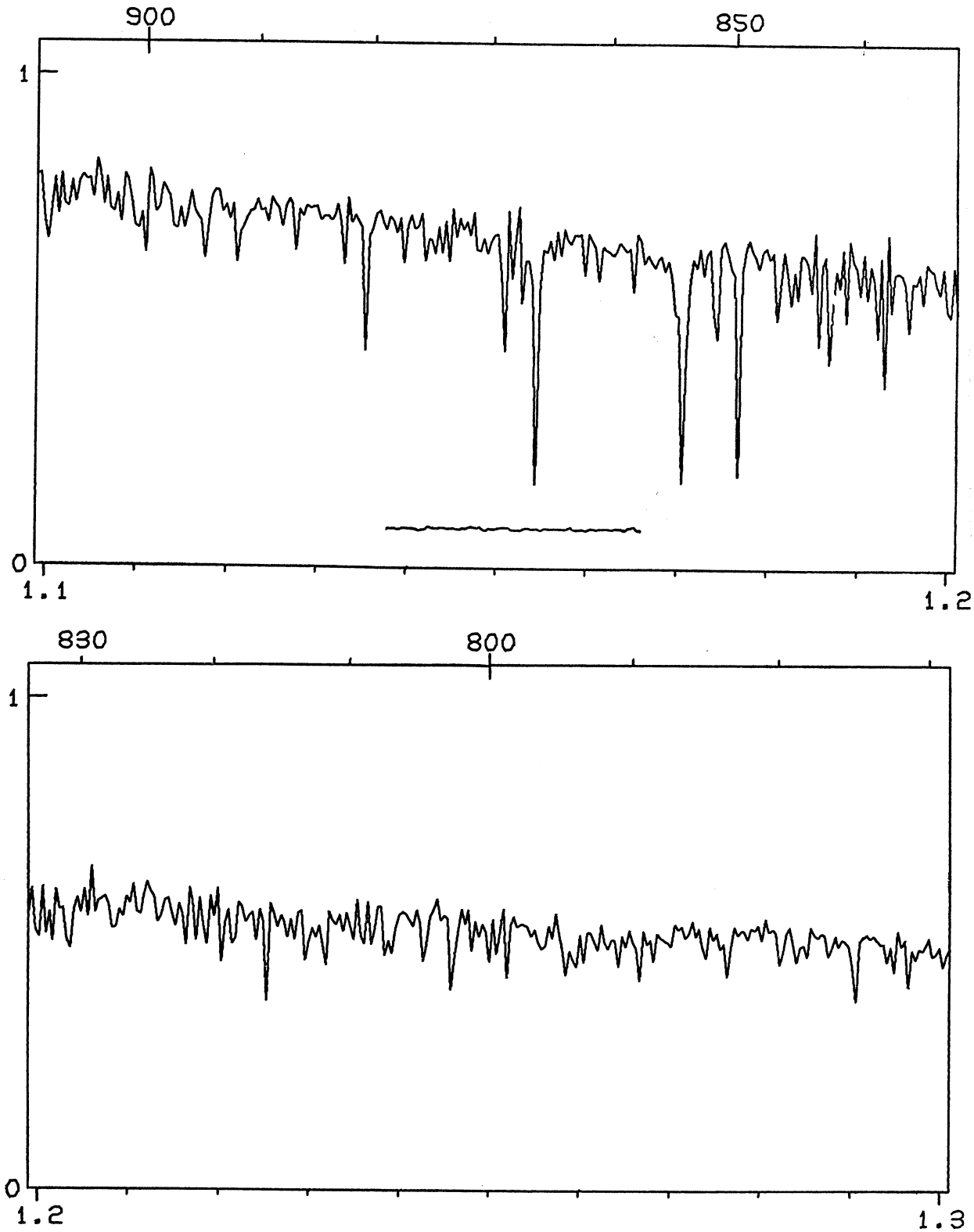


FIG. 22. The spectrum of α Tau.

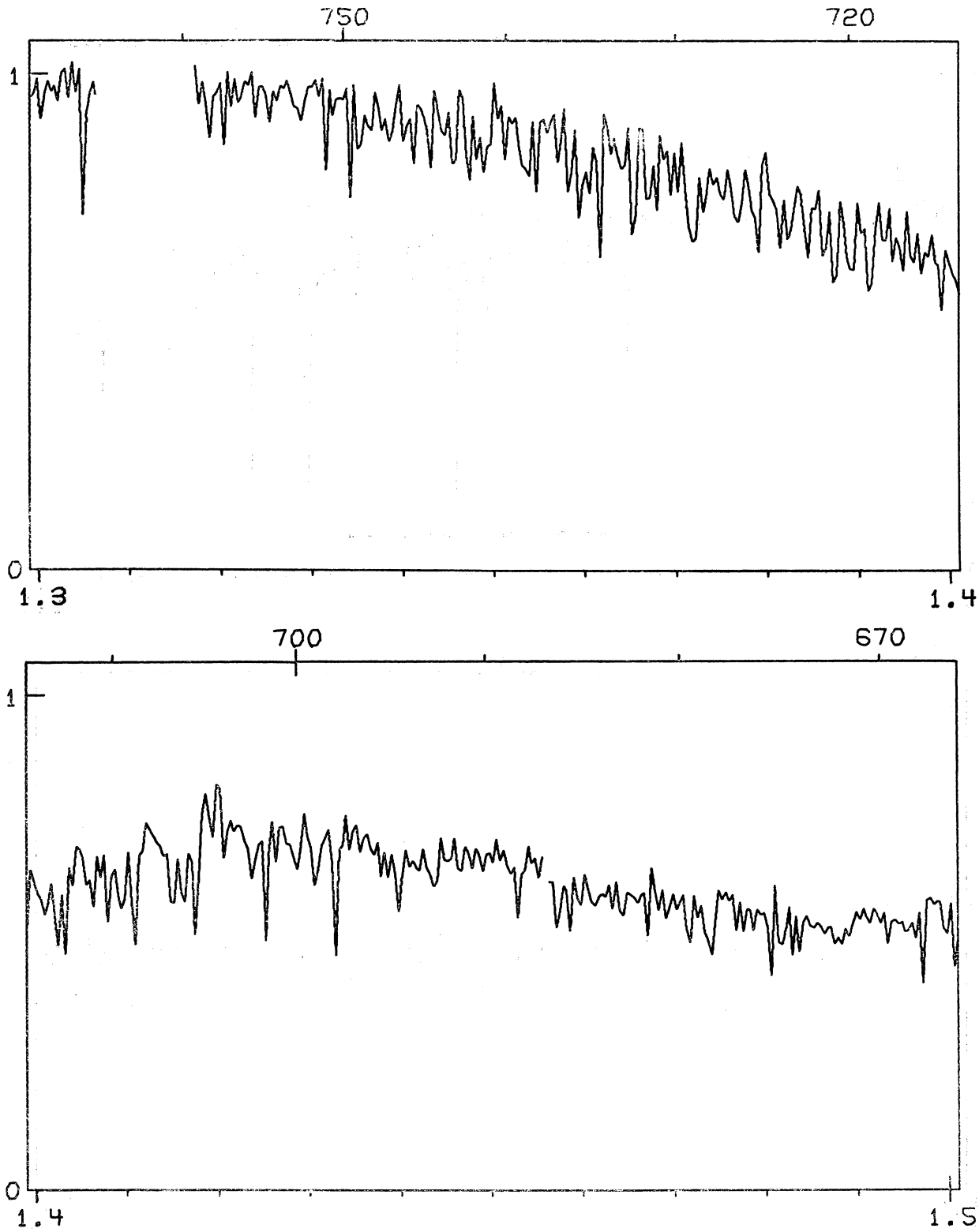


FIG. 22. The spectrum of α Tau.

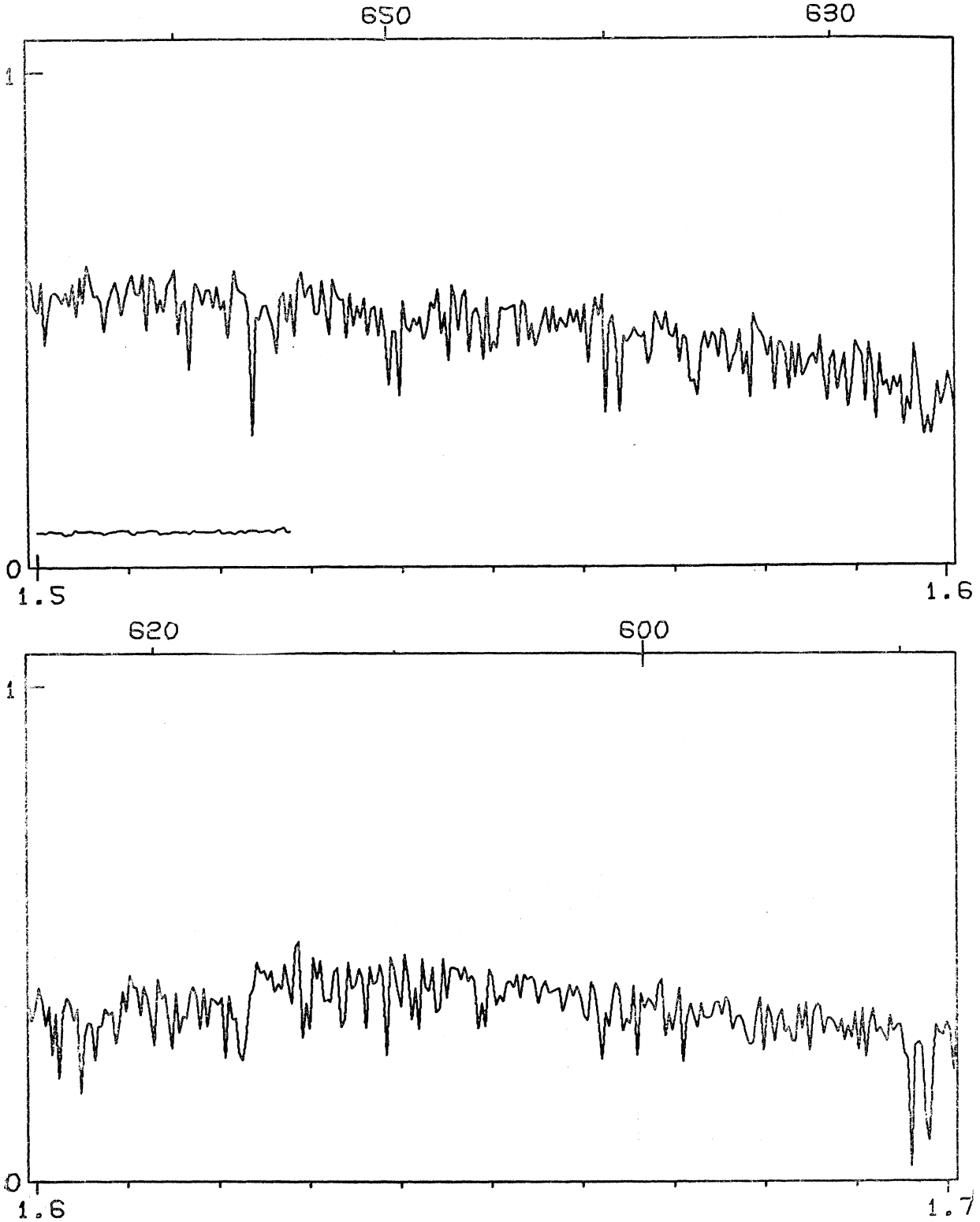


FIG. 22. The spectrum of α Tau.

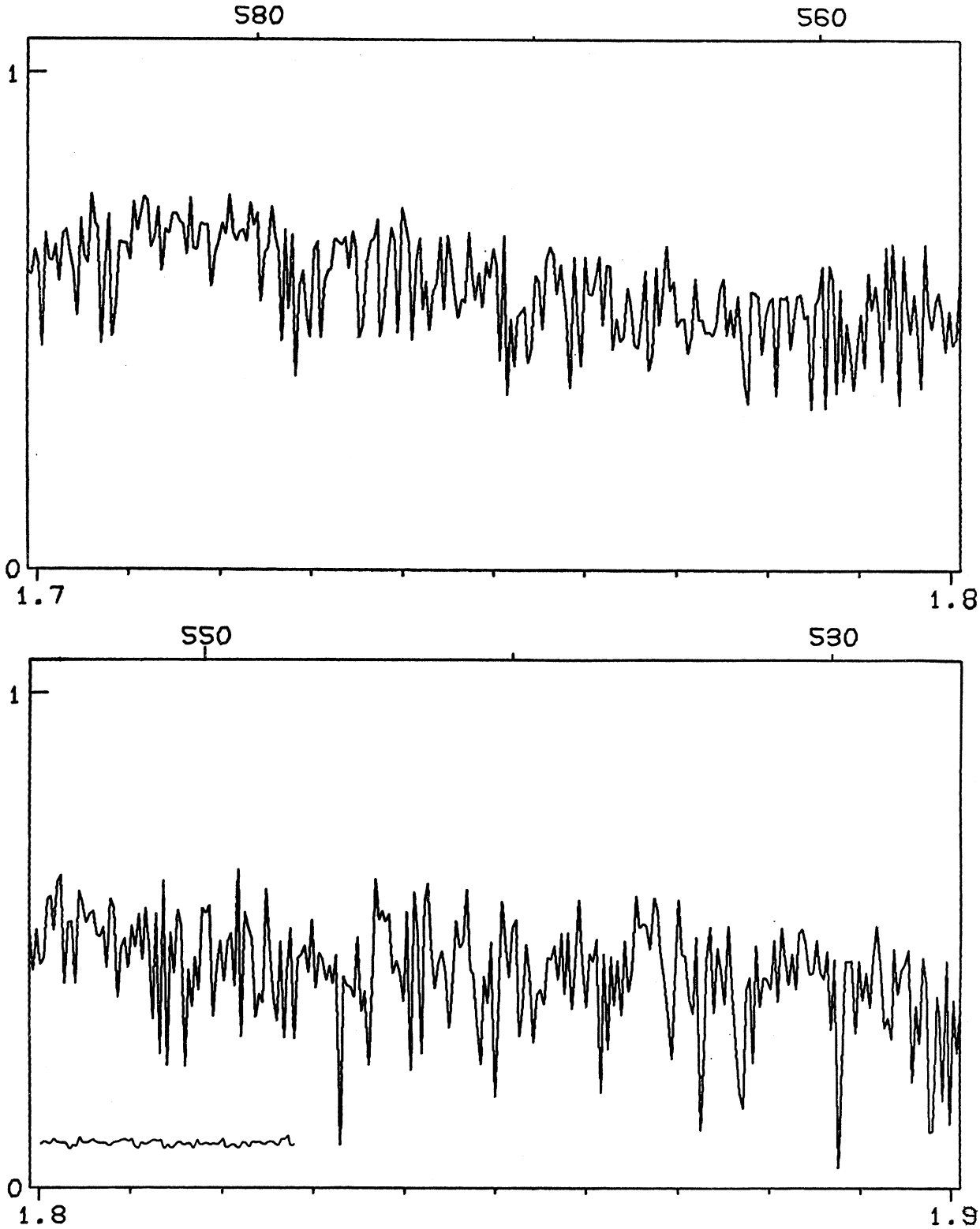


FIG. 22. The spectrum of α Tau.

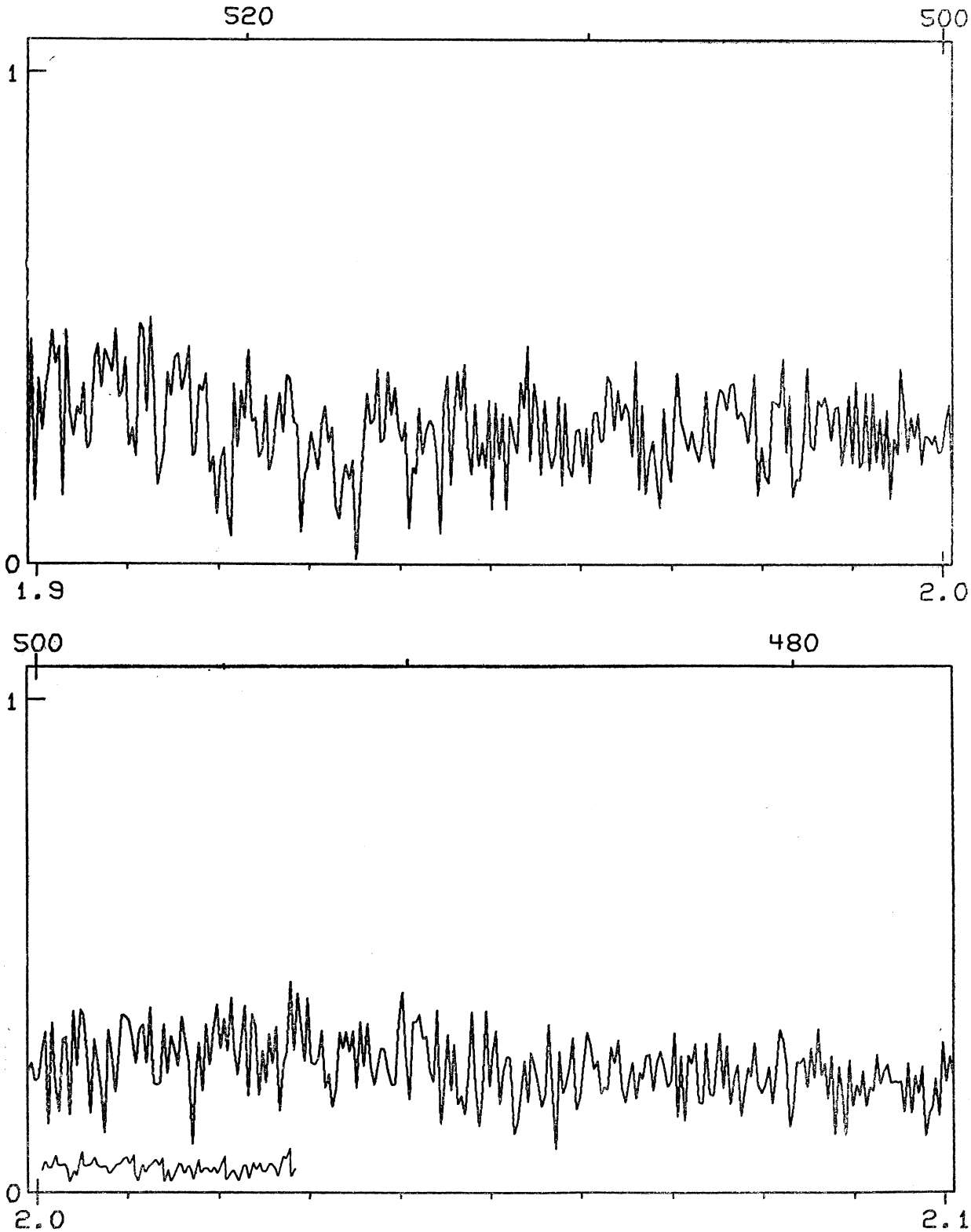


FIG. 22. The spectrum of α Tau.

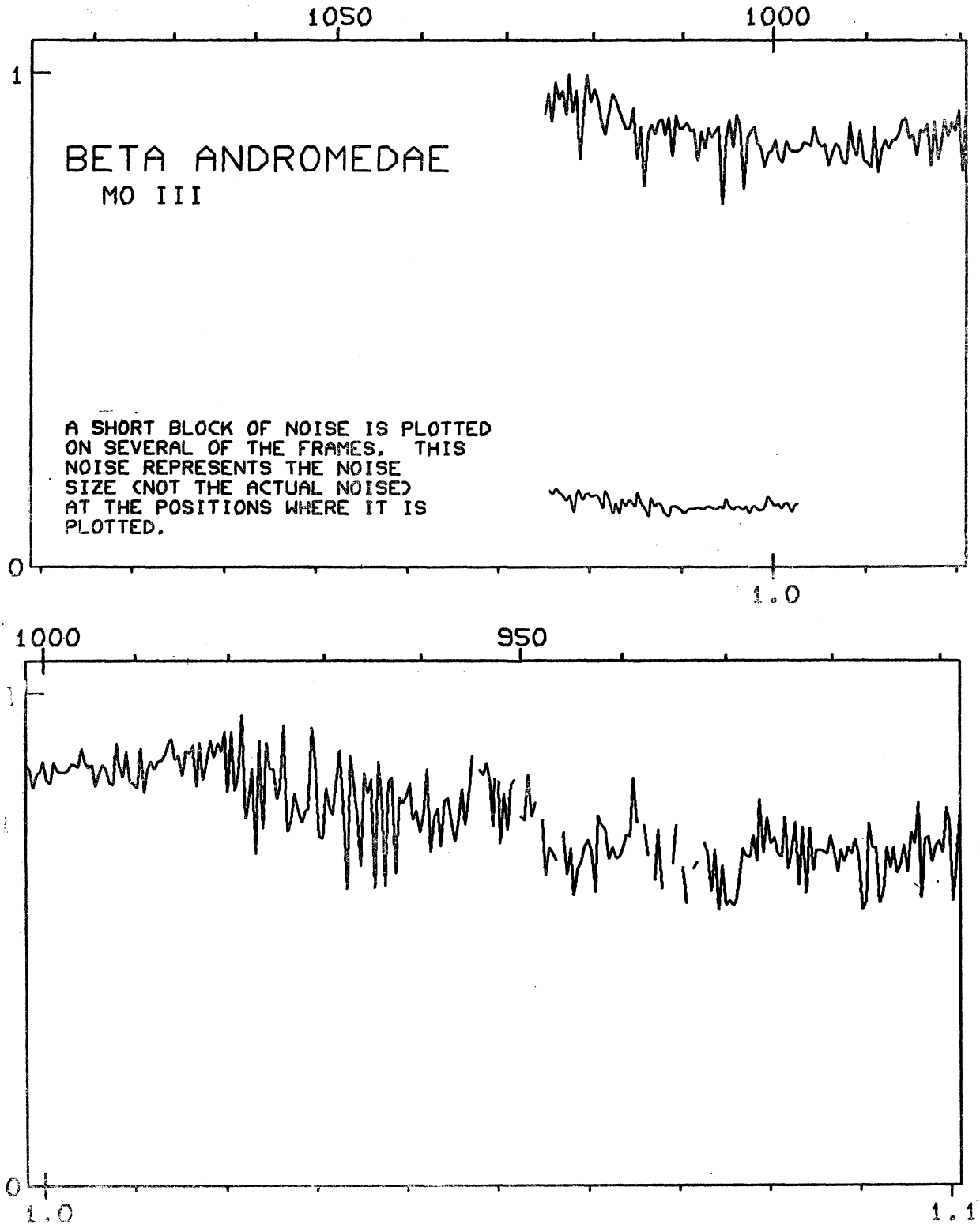


FIG. 23. The spectrum of β And.

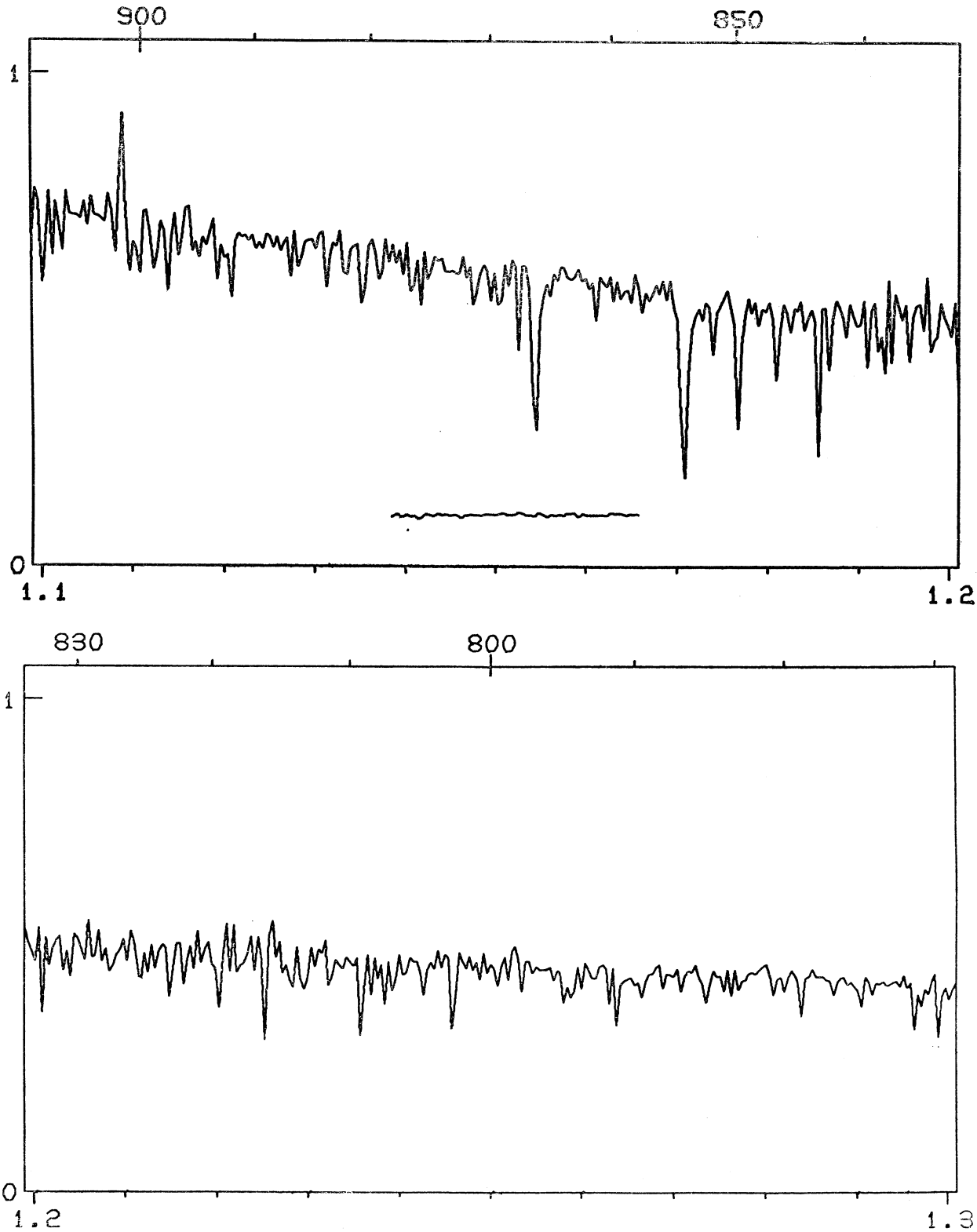


FIG. 23. The spectrum of β And.

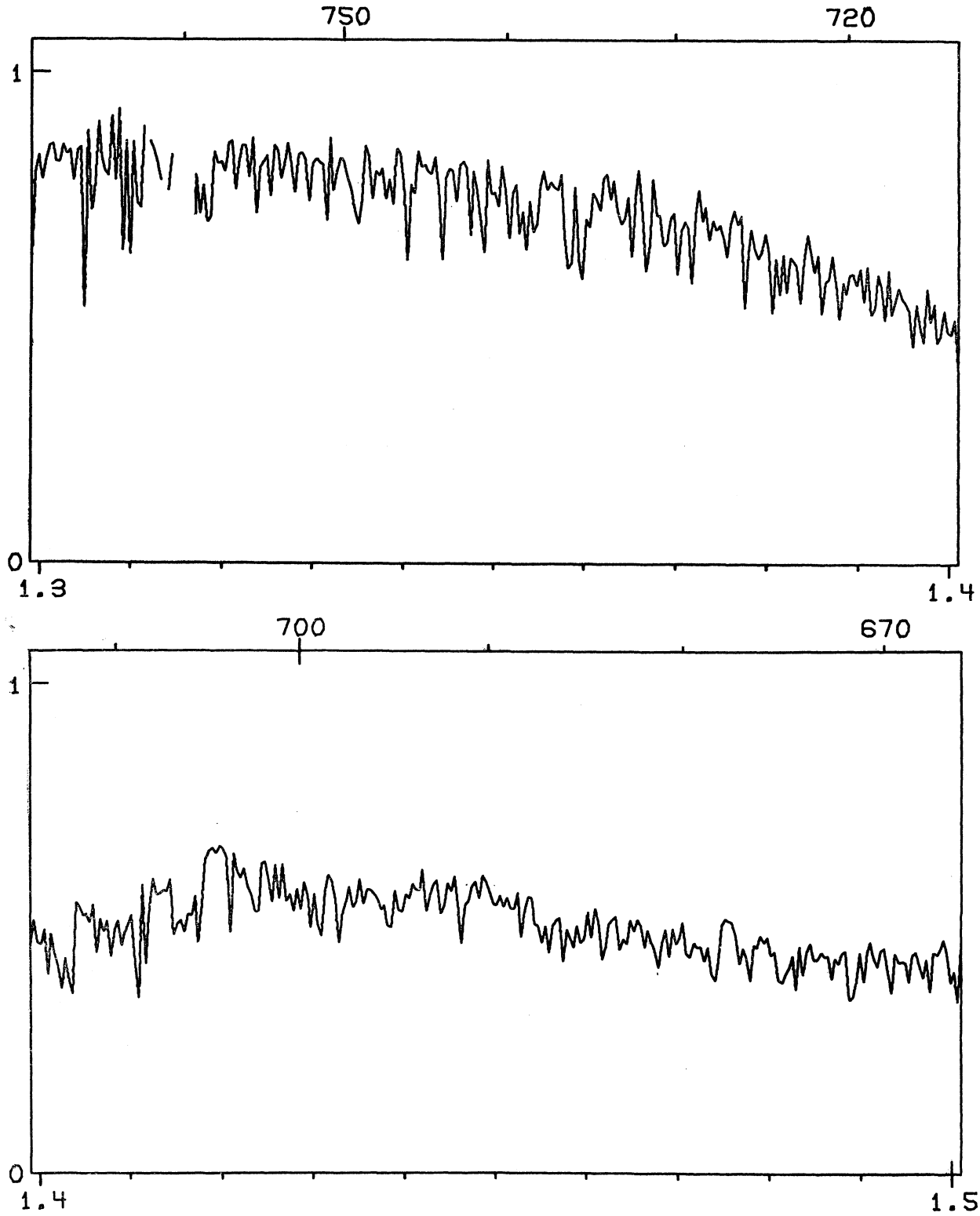


FIG. 23. The spectrum of β And.

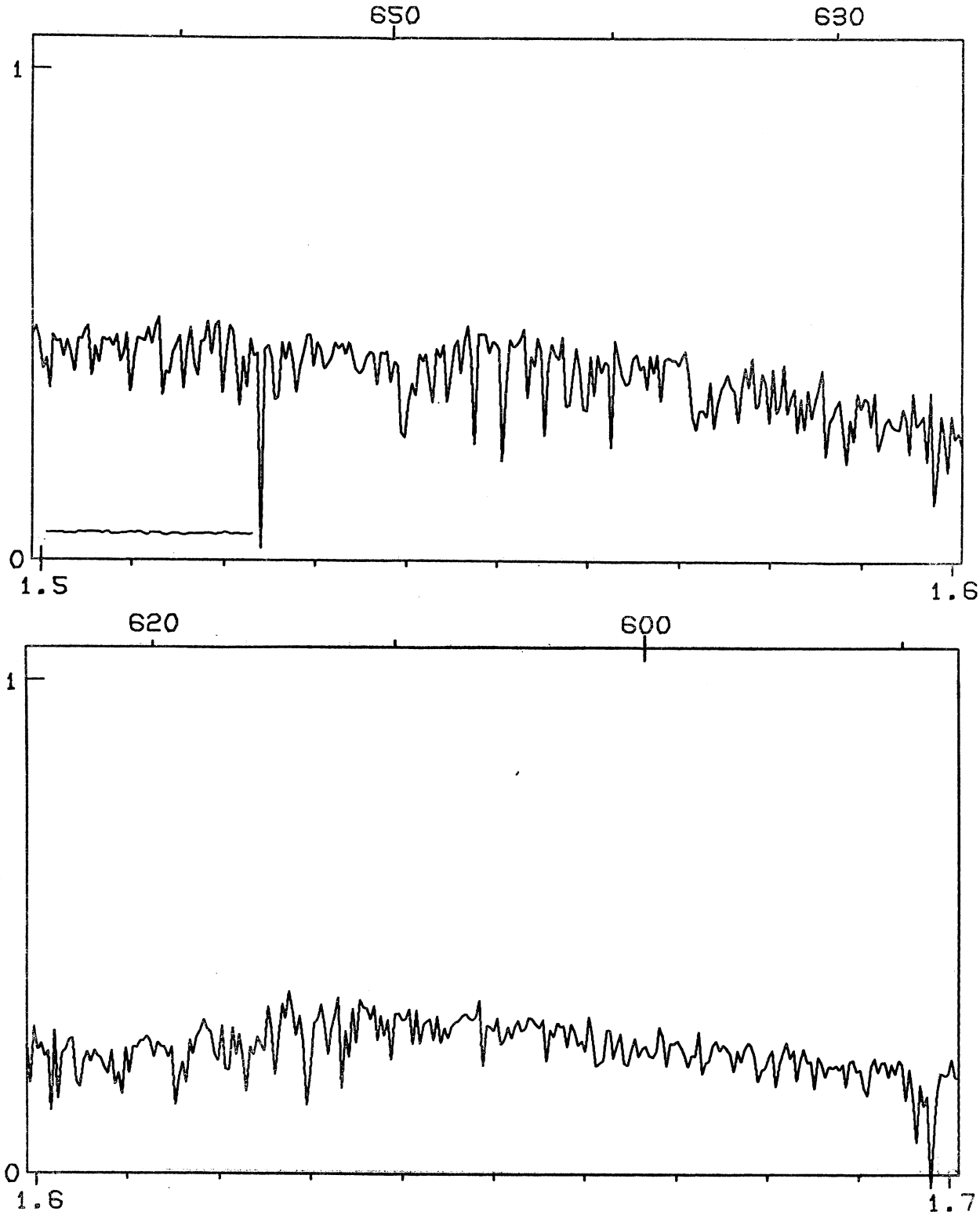


FIG. 23. The spectrum of β And.

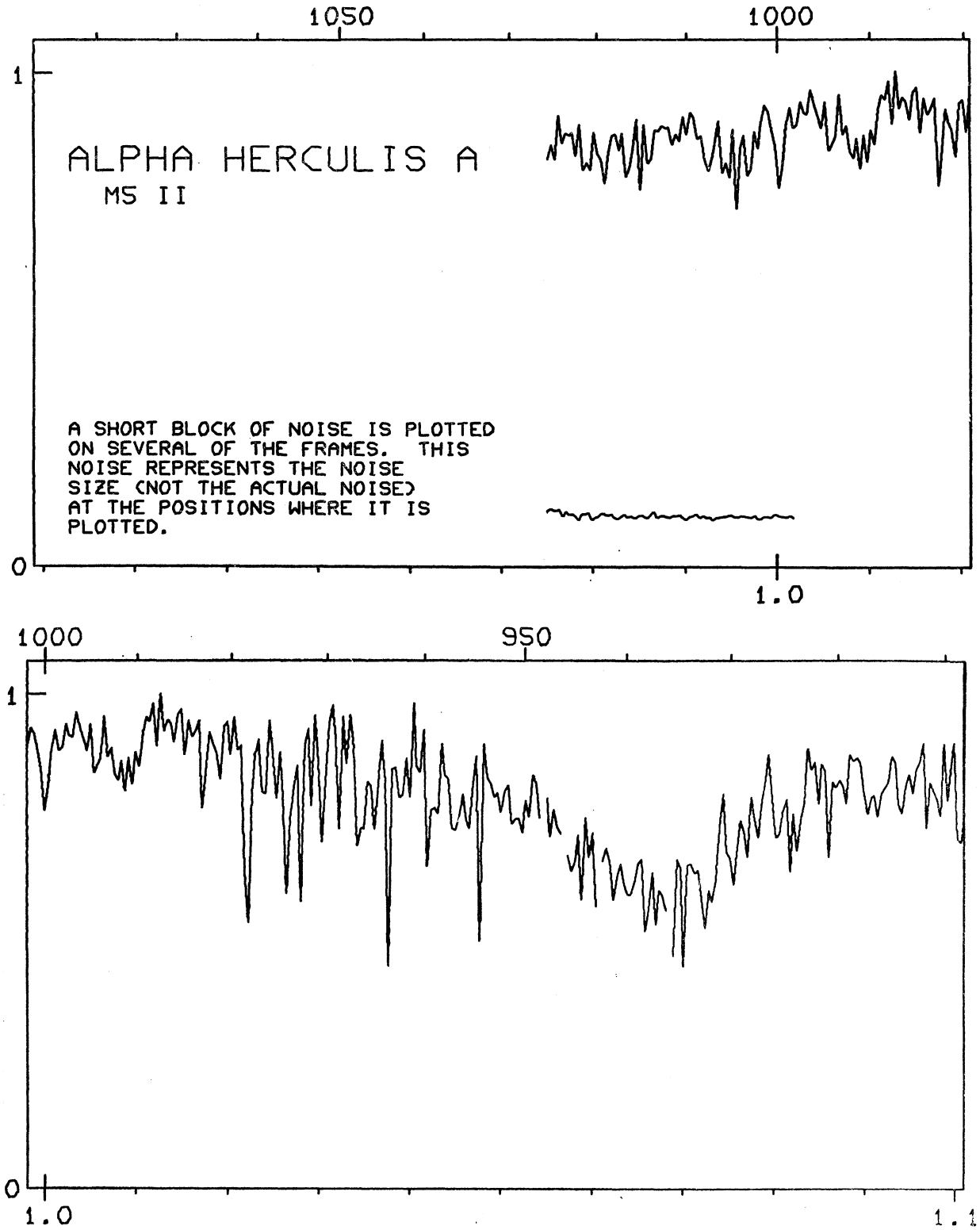


FIG. 24. The spectrum of α Her A.

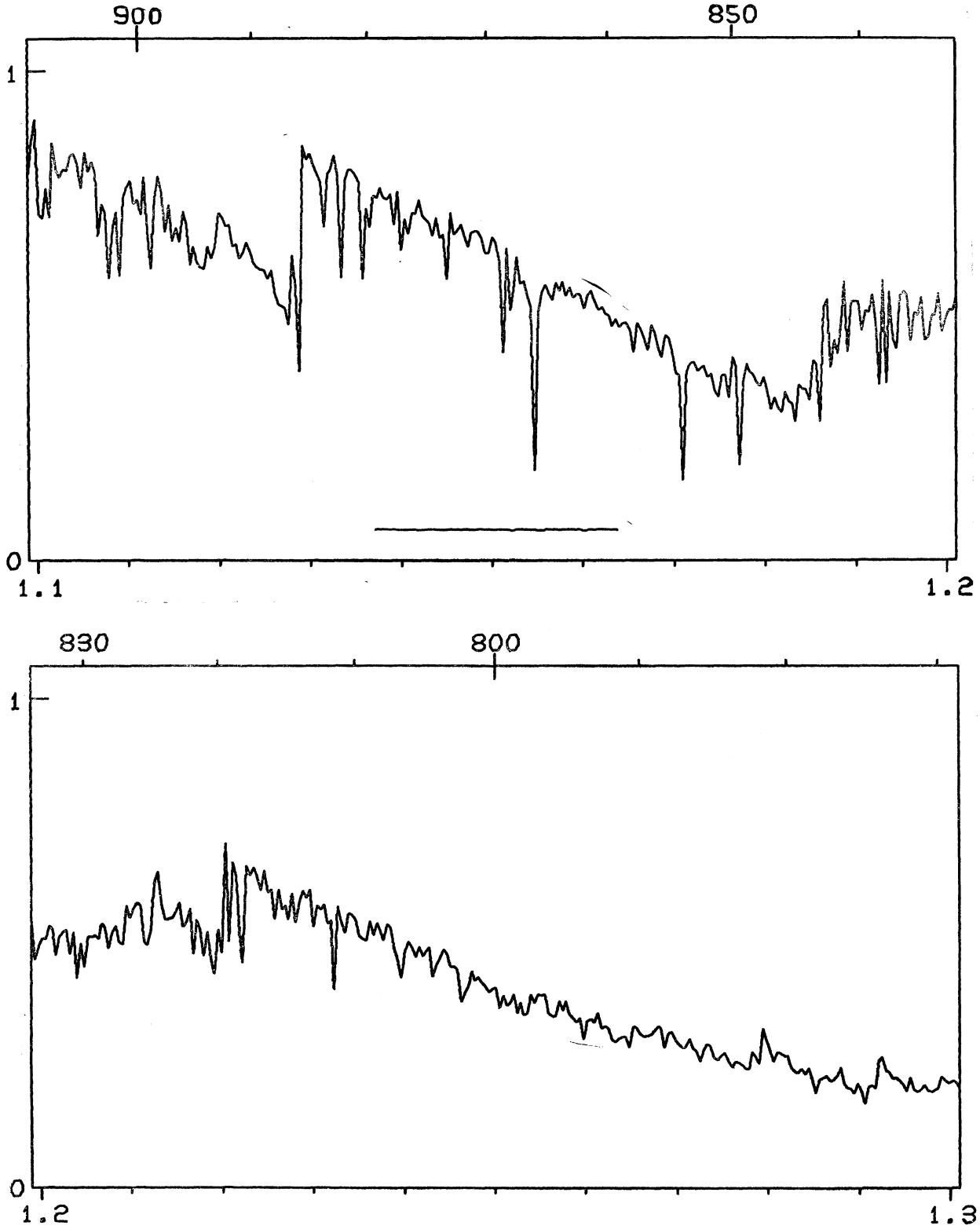


FIG. 24. The spectrum of α Her A.

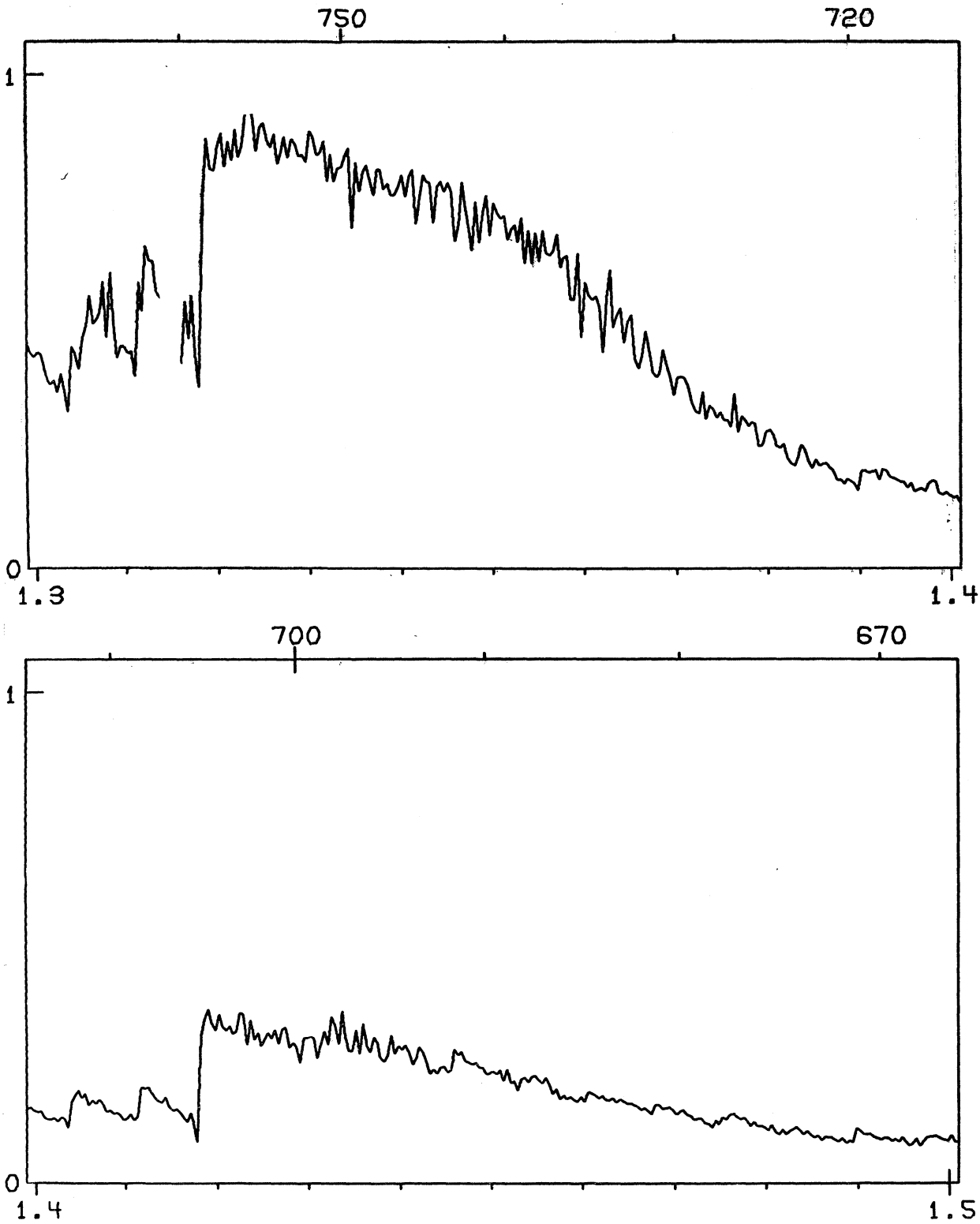


FIG. 24. The spectrum of α Her A.

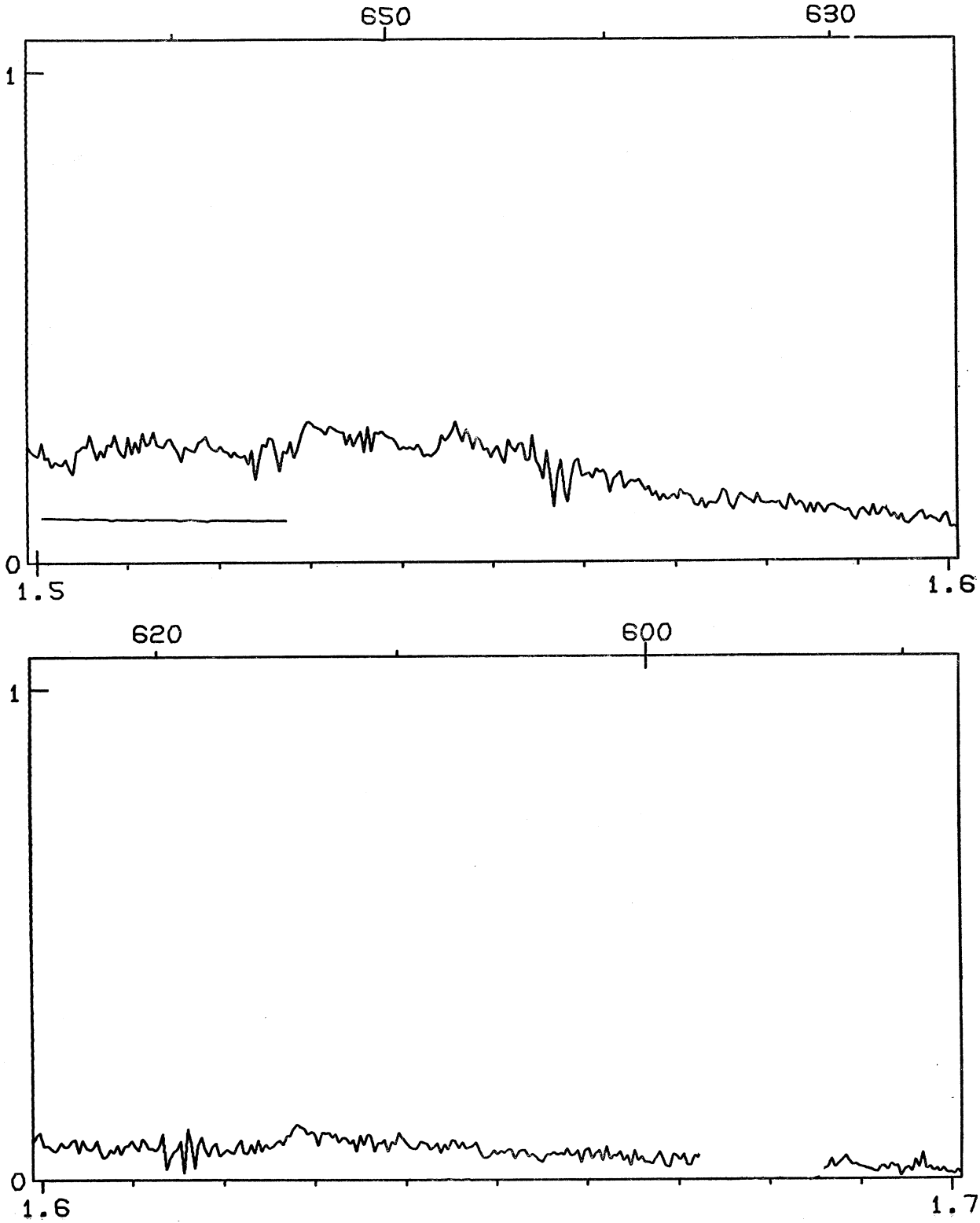


FIG. 24. The spectrum of α Her A.

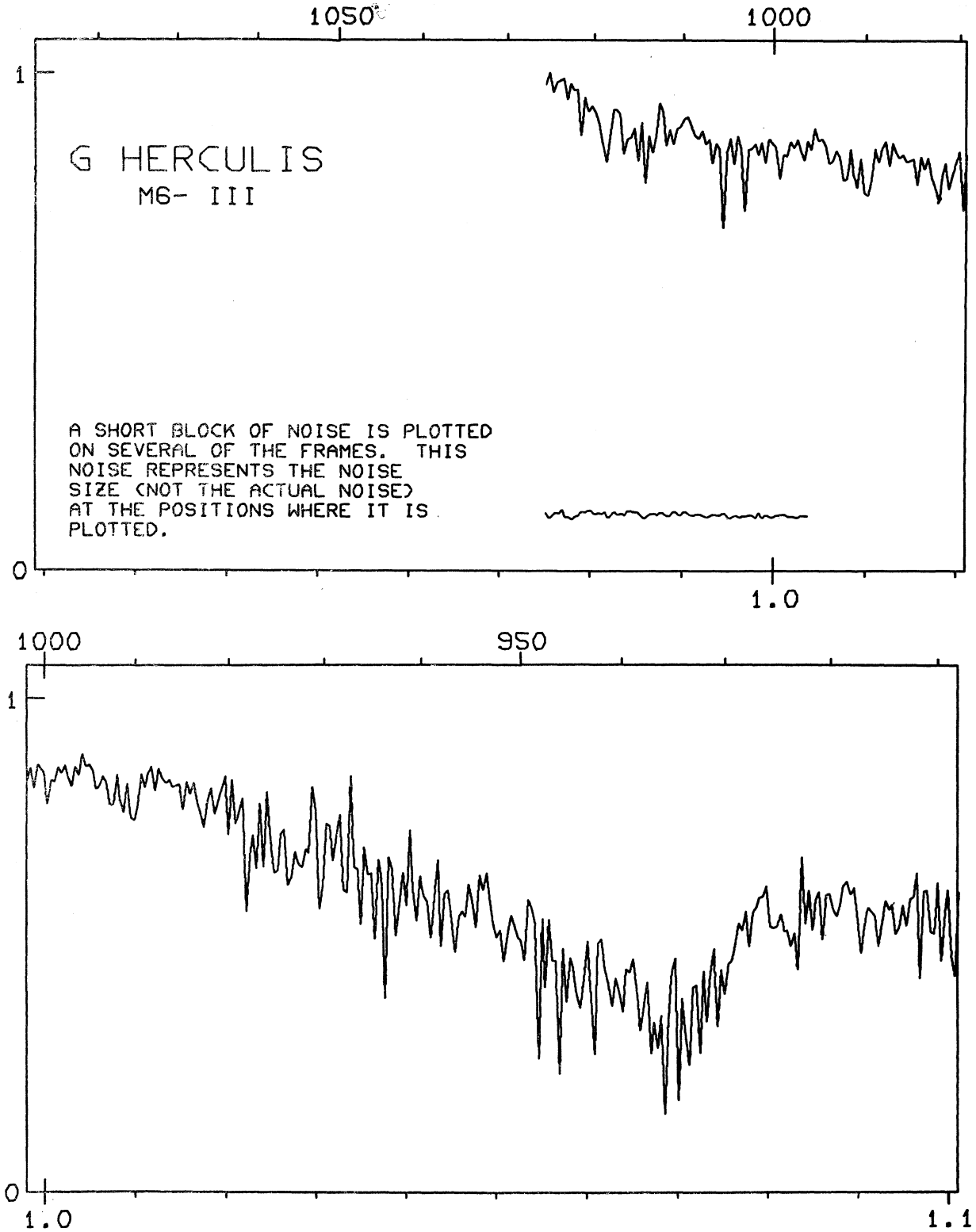


FIG. 25. The spectrum of g Her.

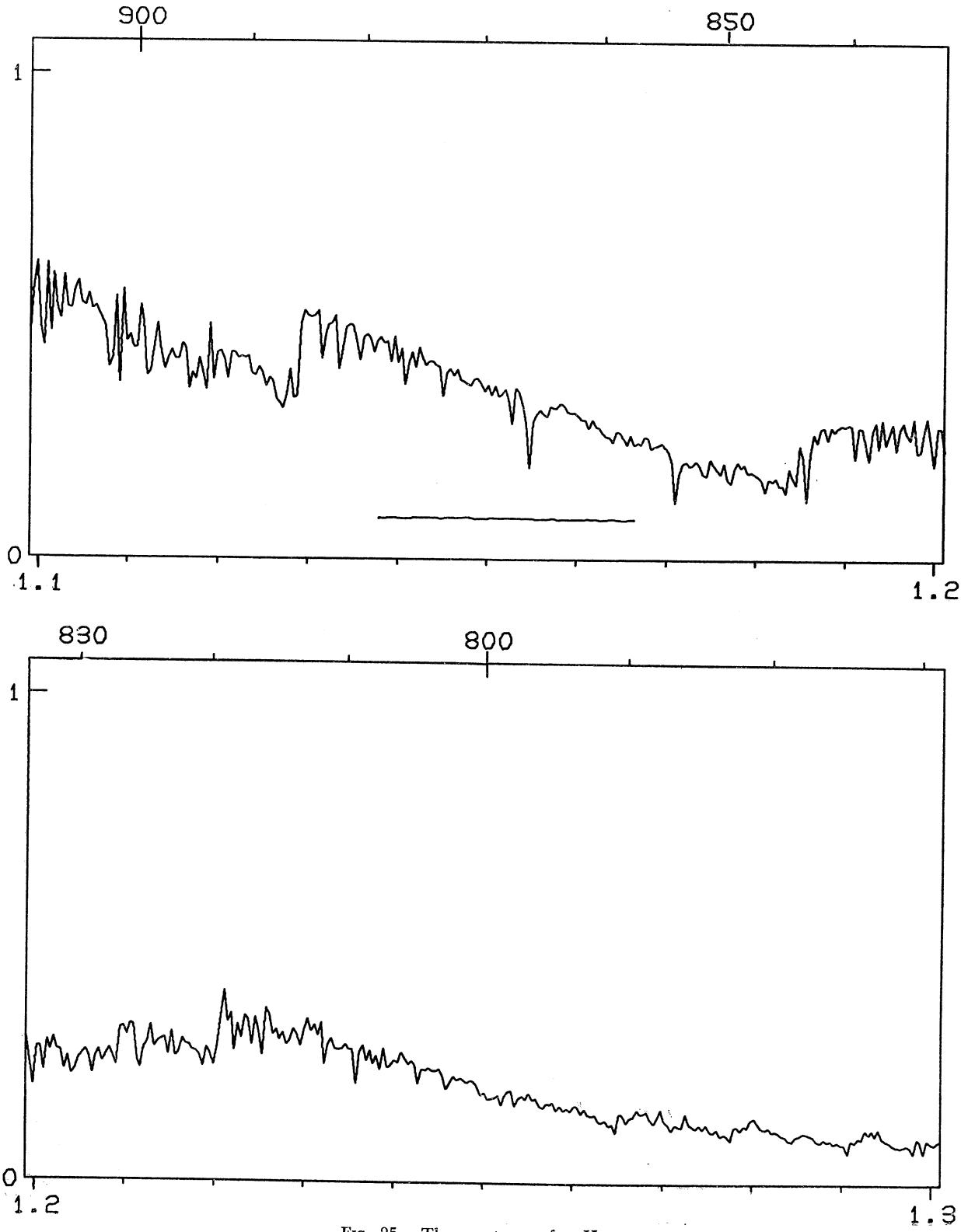


FIG. 25. The spectrum of g Her.

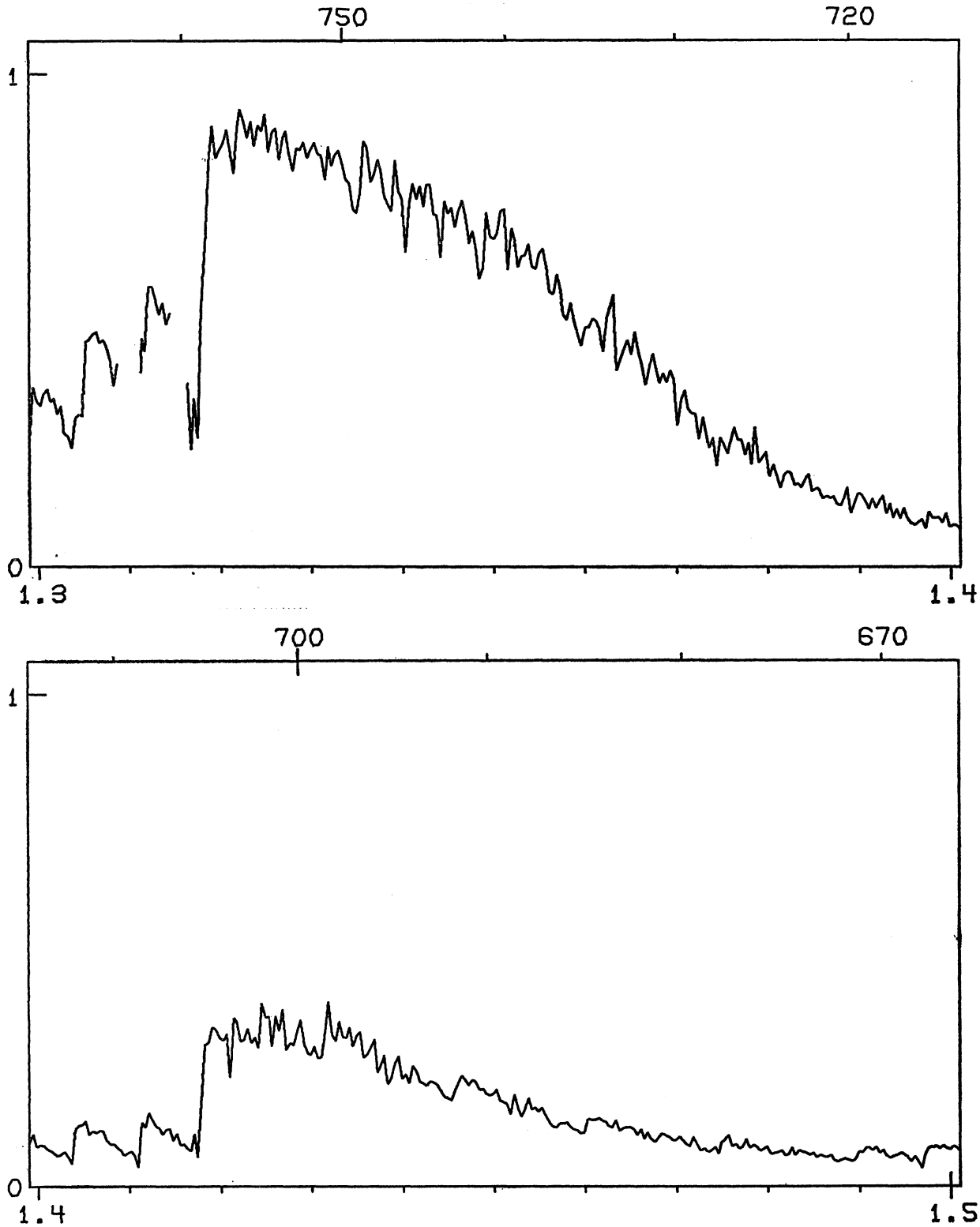


FIG. 25. The spectrum of g Her.

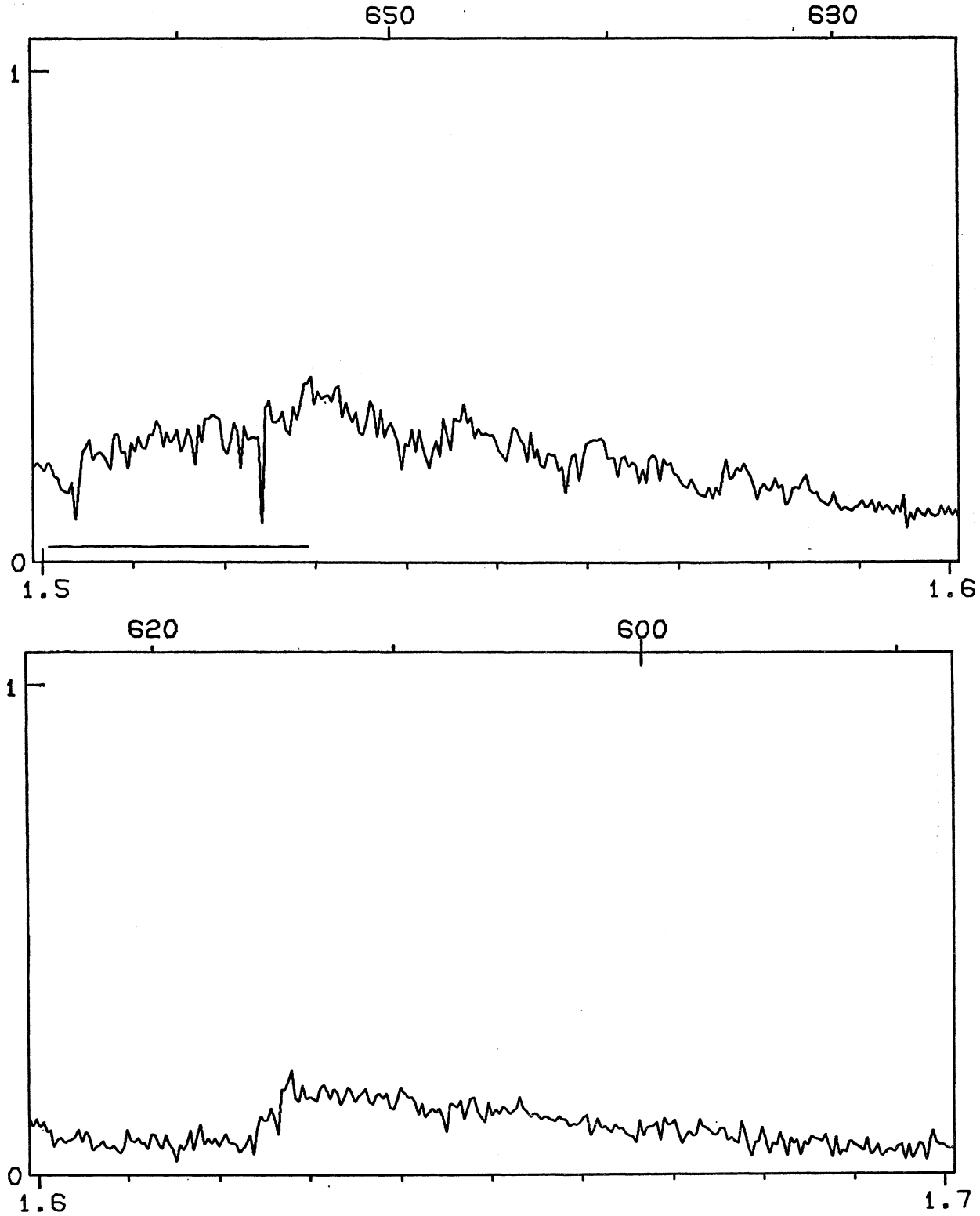


FIG. 25. The spectrum of g Her.

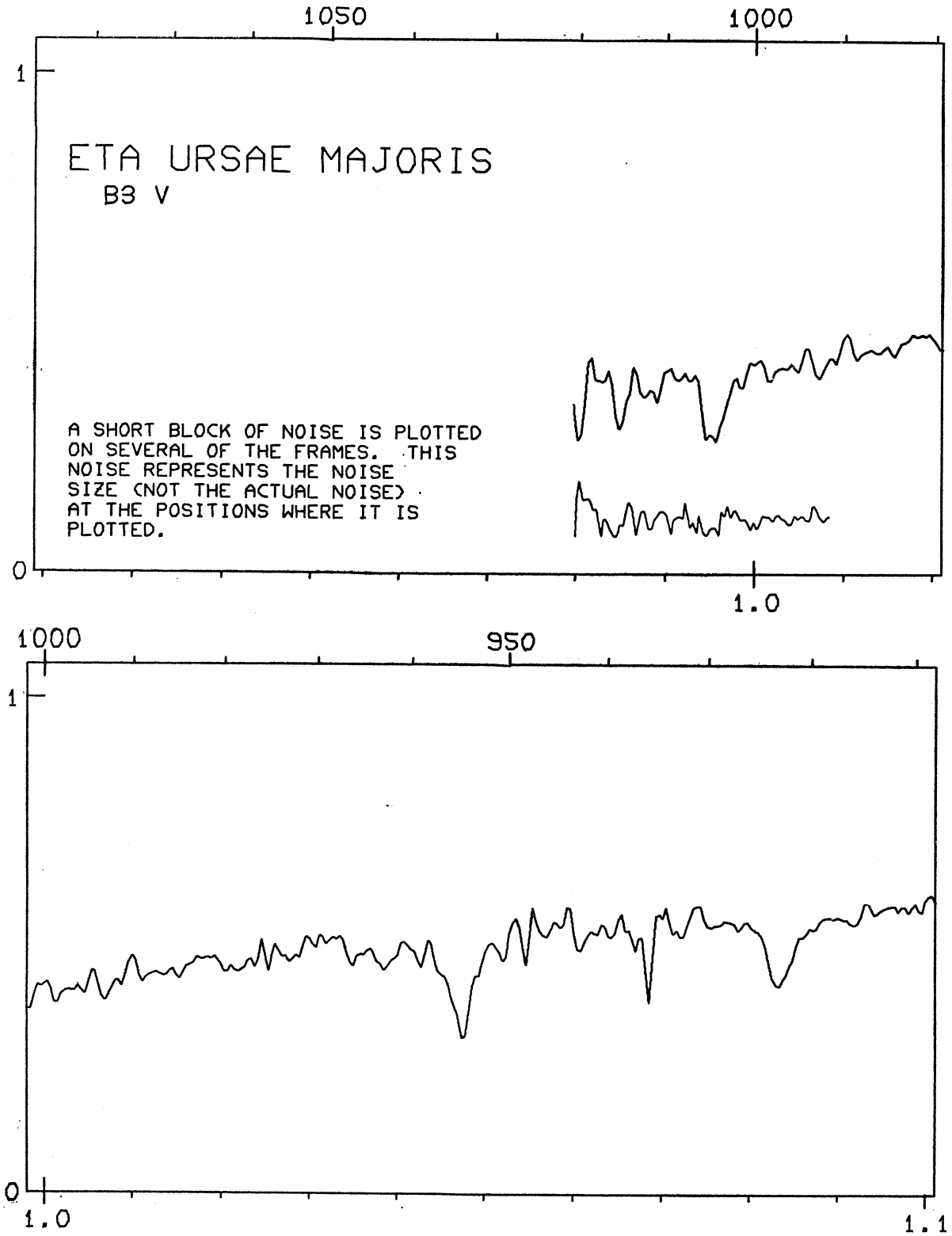


FIG. 26. The spectrum of η UMa.

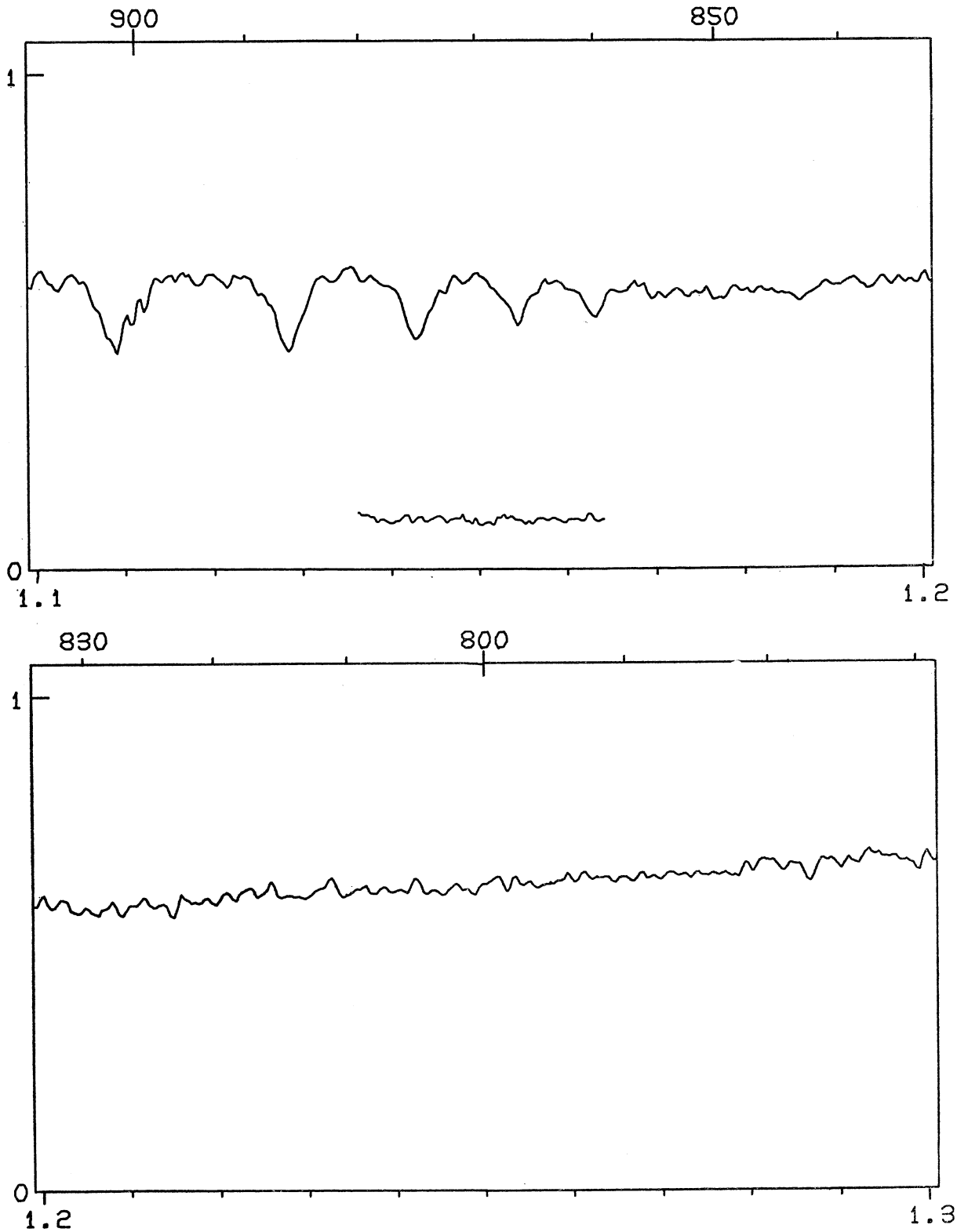


FIG. 26. The spectrum of η UMa.

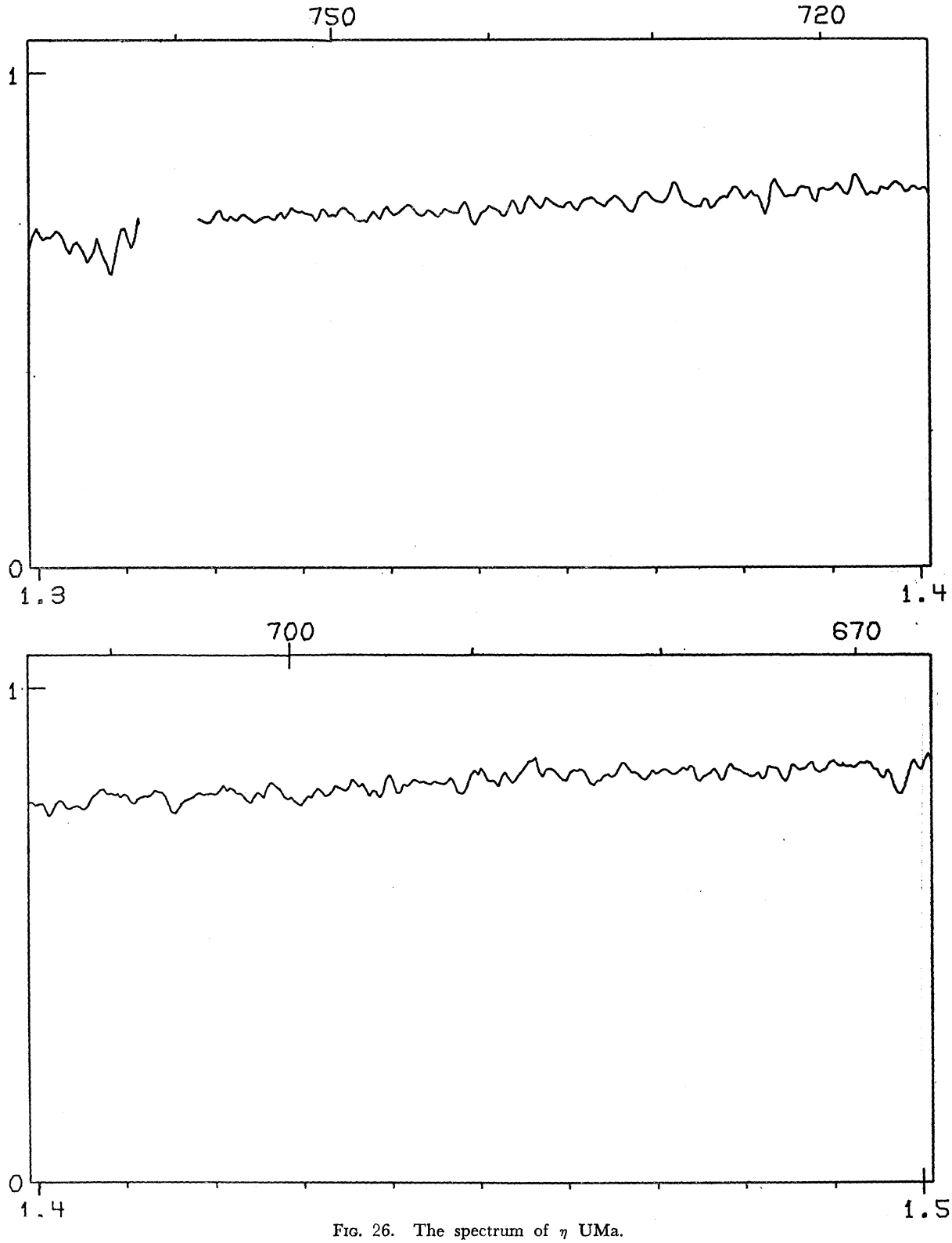


FIG. 26. The spectrum of η UMa.

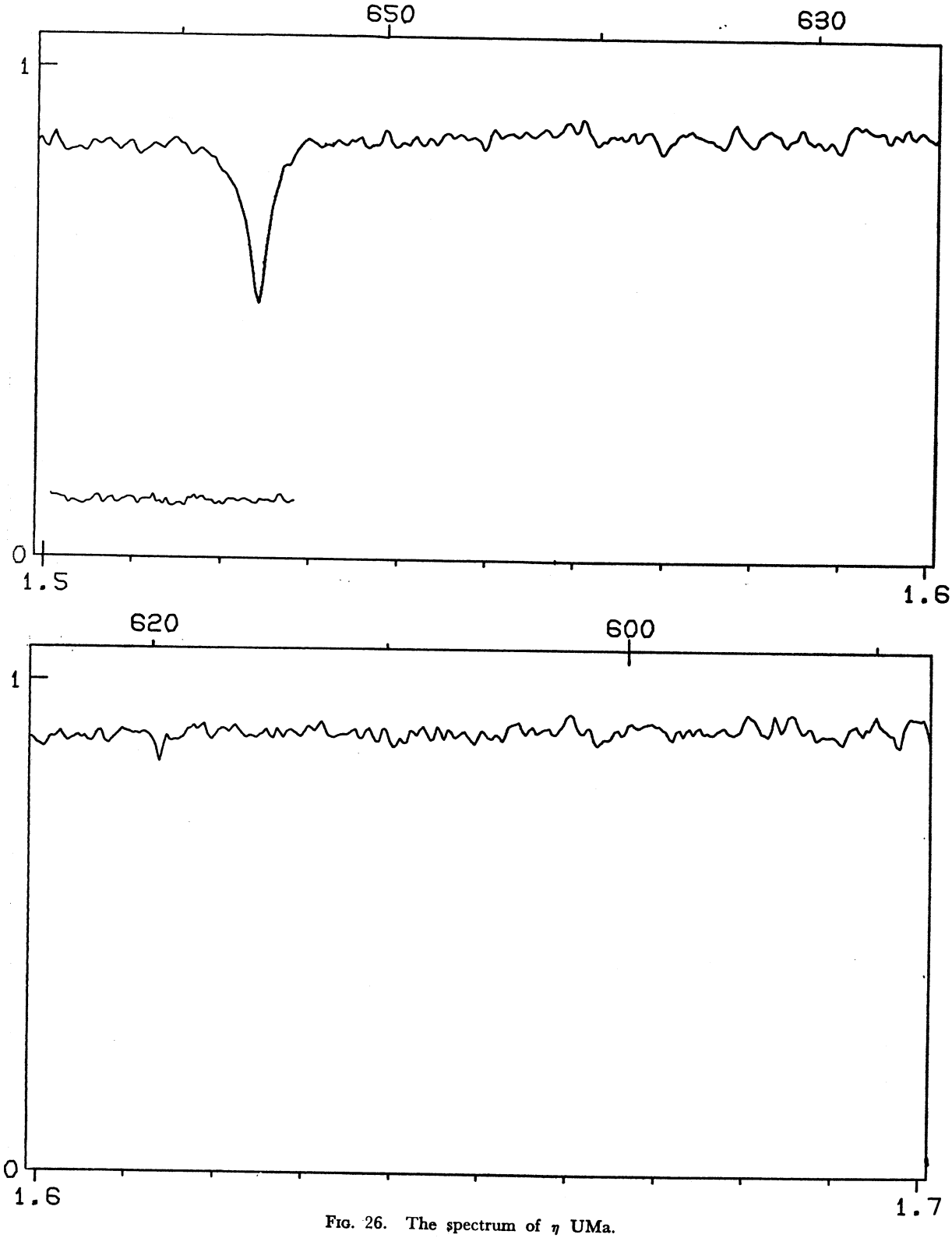


FIG. 26. The spectrum of η UMa.

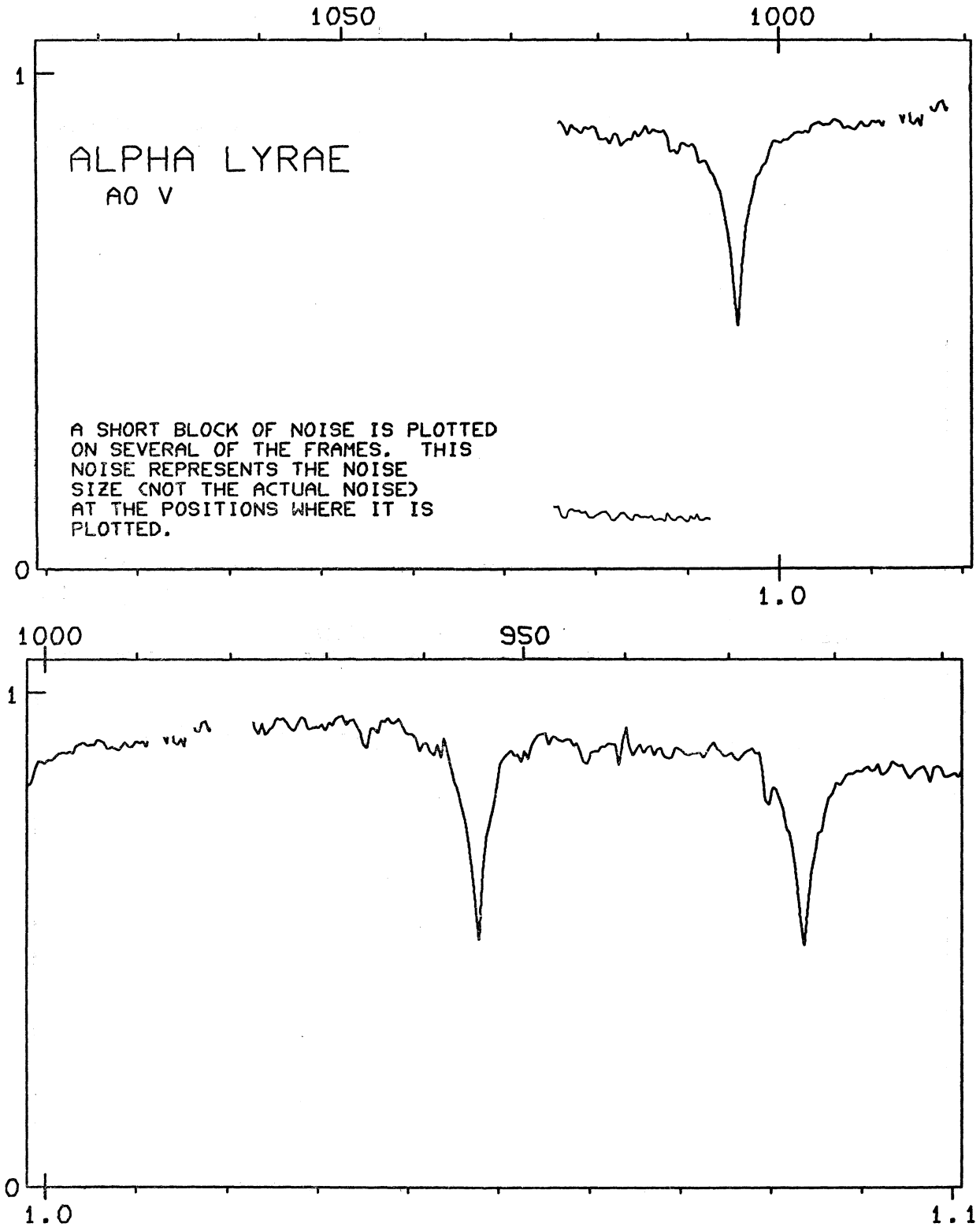


FIG. 27. The spectrum of α Lyr.

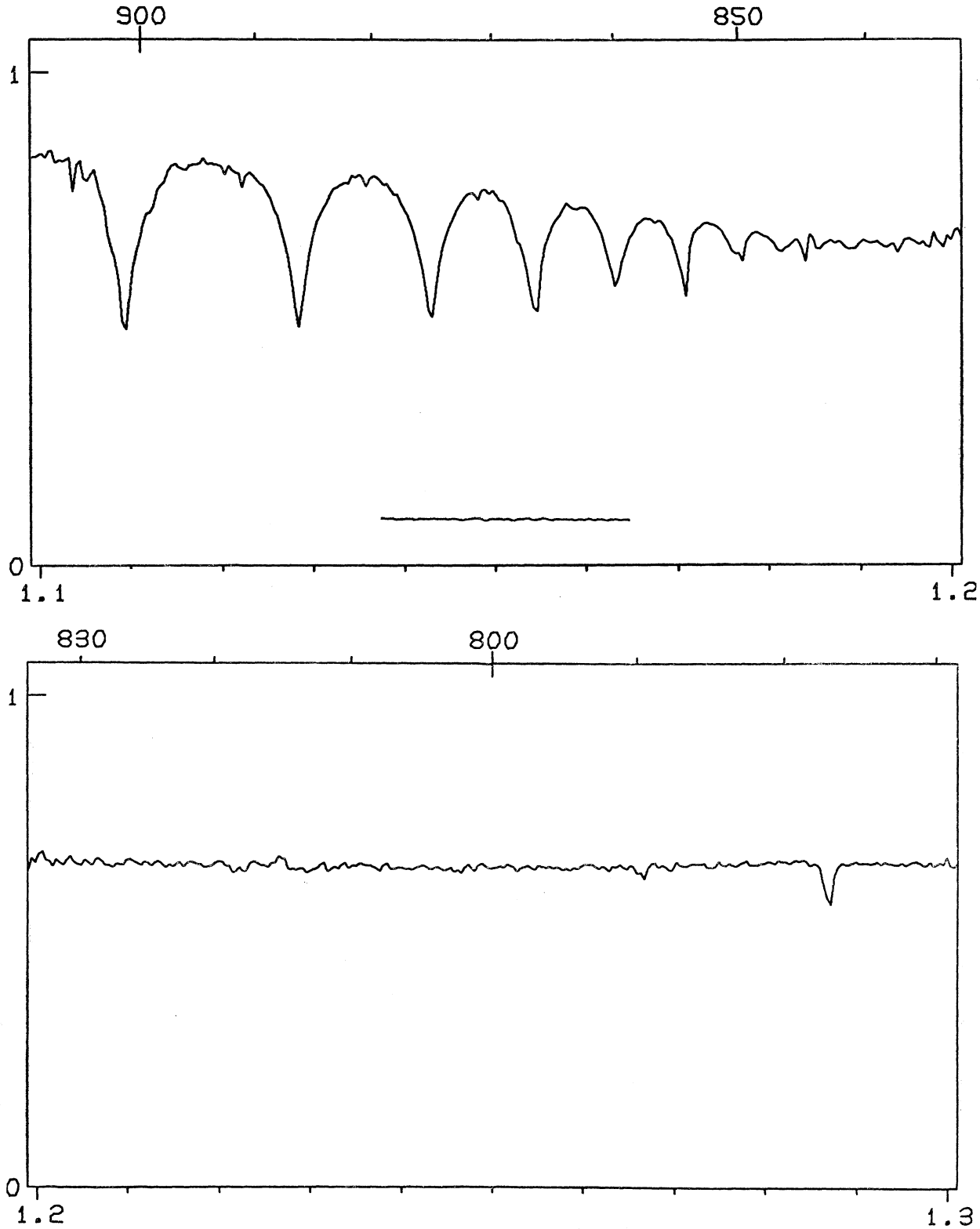


FIG. 27. The spectrum of α Lyr.

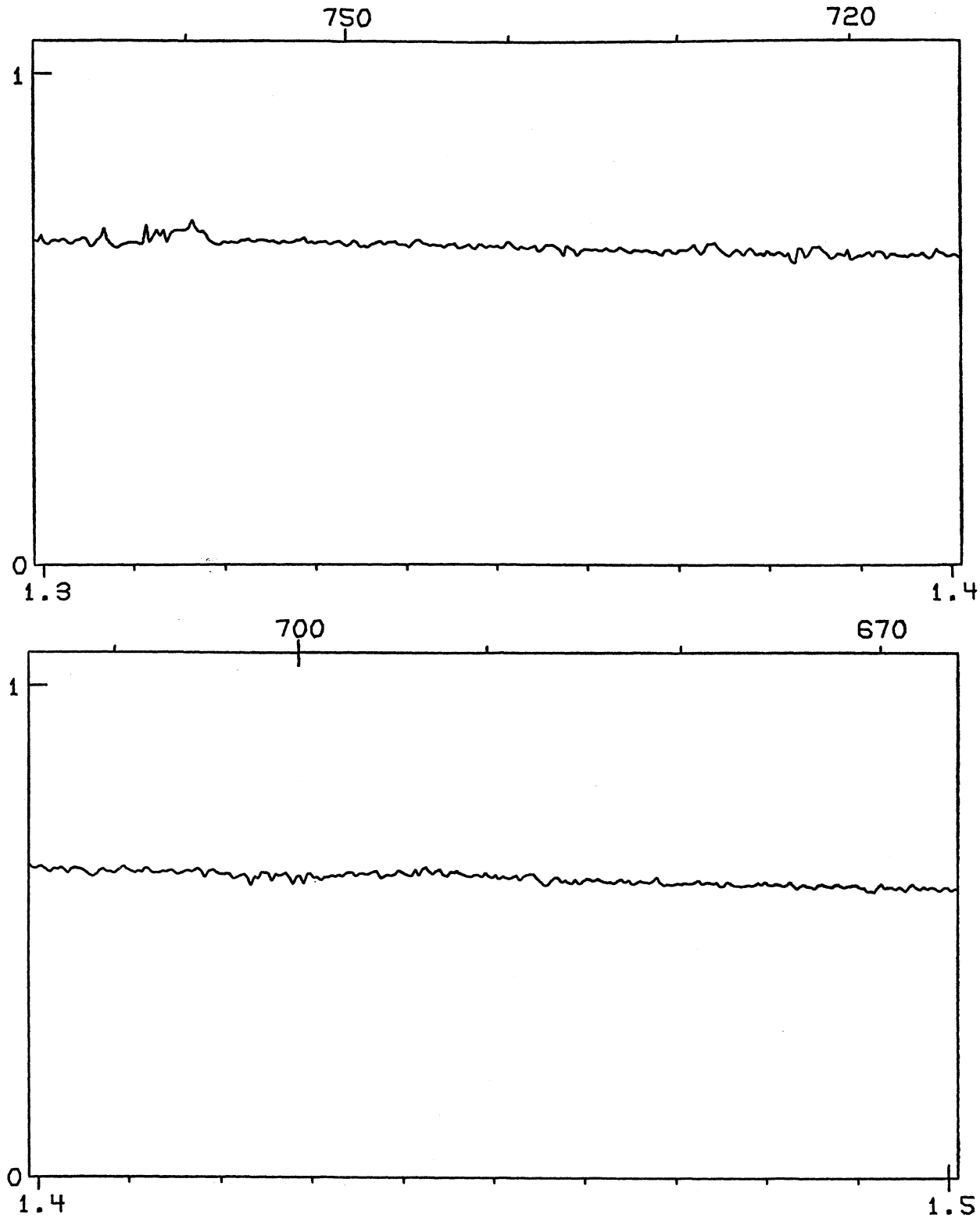


FIG. 27. The spectrum of α Lyr.

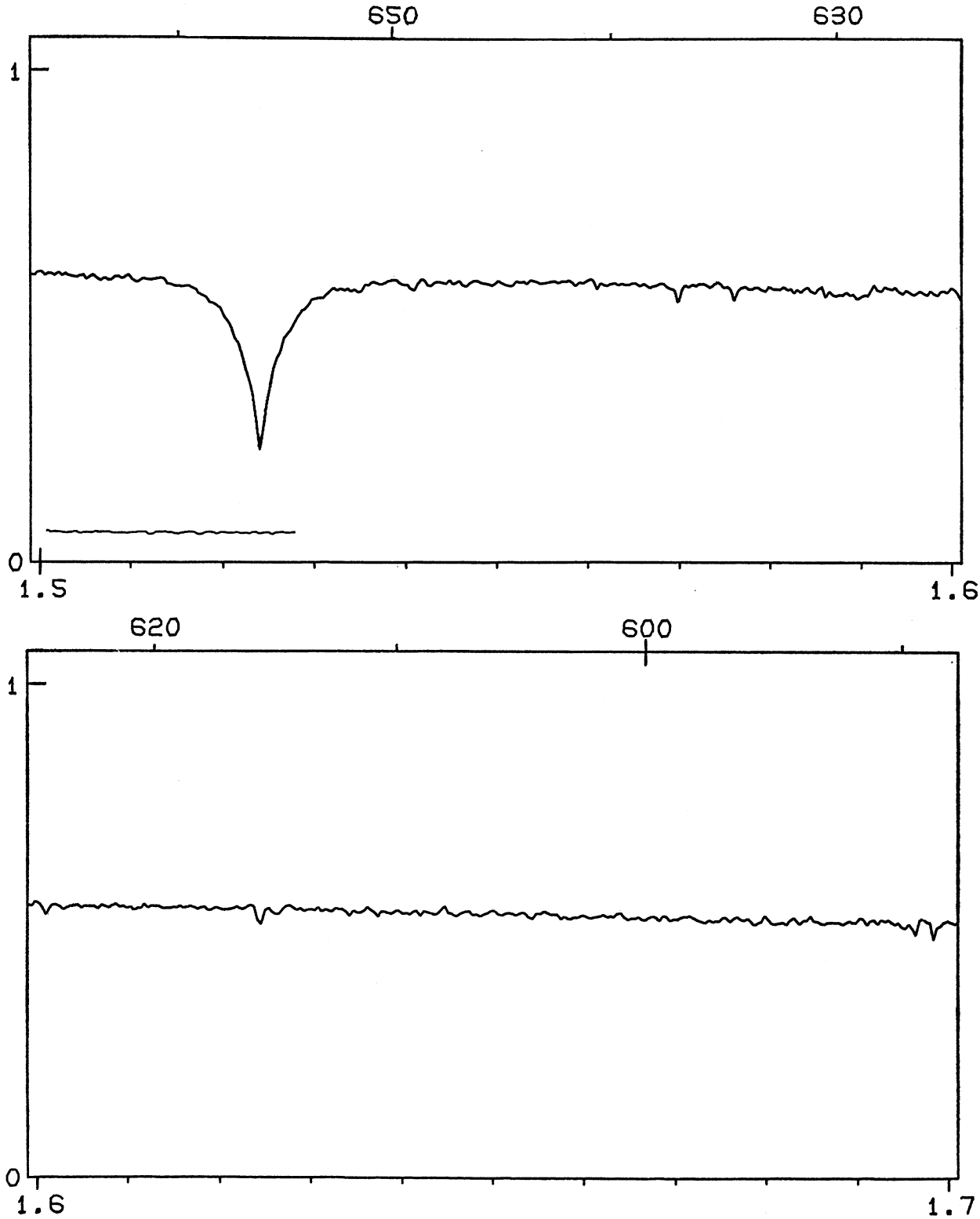


FIG. 27. The spectrum of α Lyr.

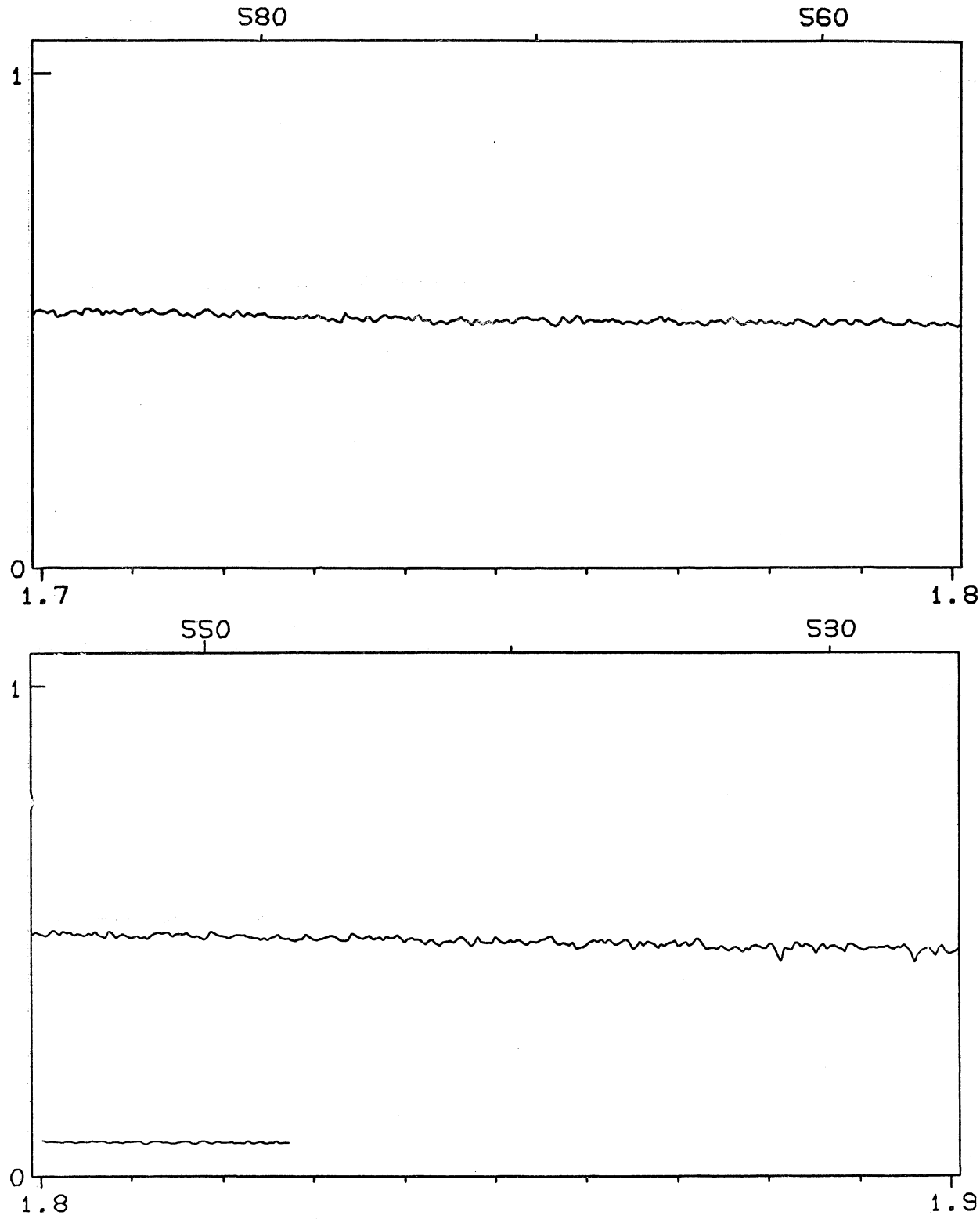


FIG. 27. The spectrum of α Lyr.

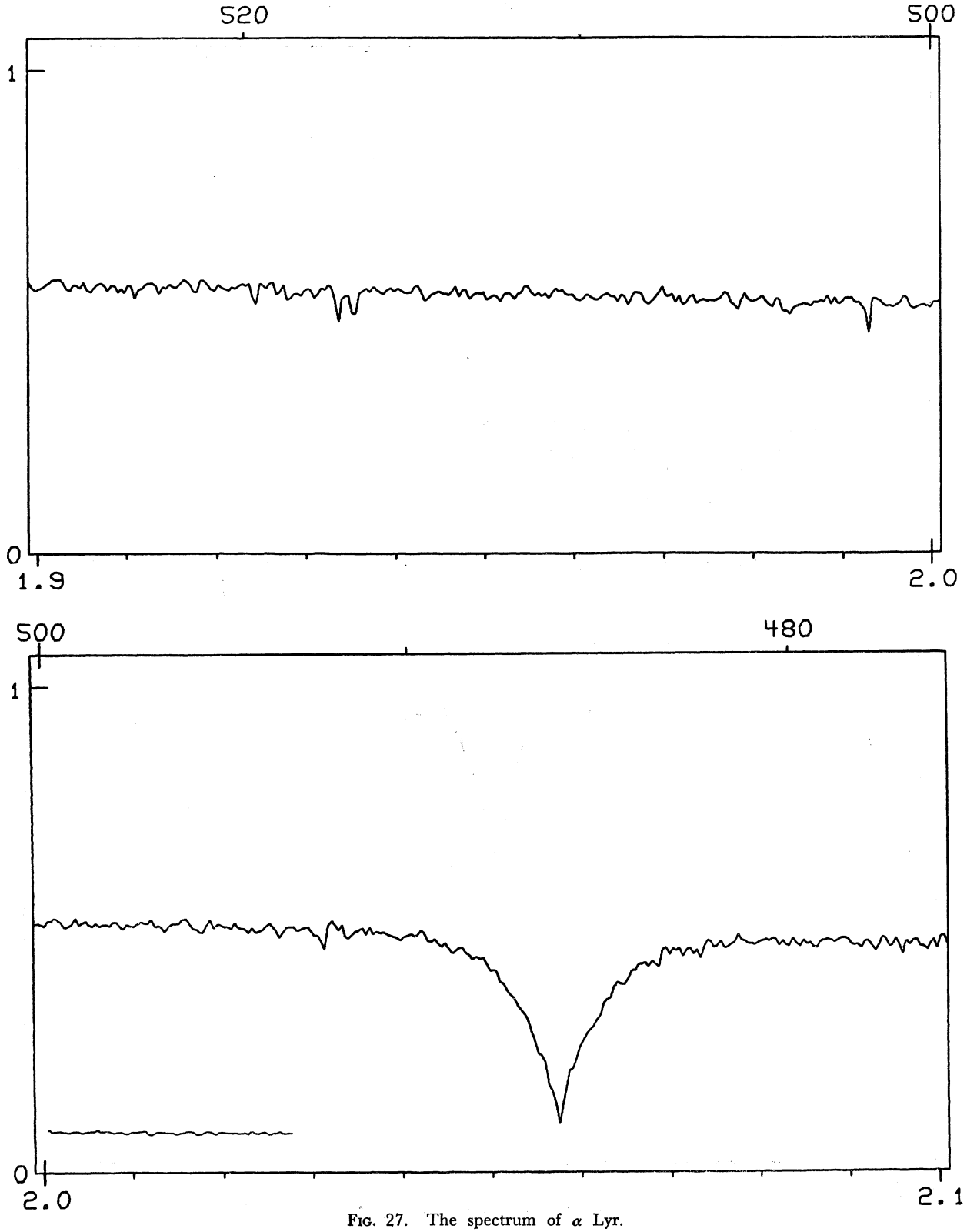


FIG. 27. The spectrum of α Lyr.

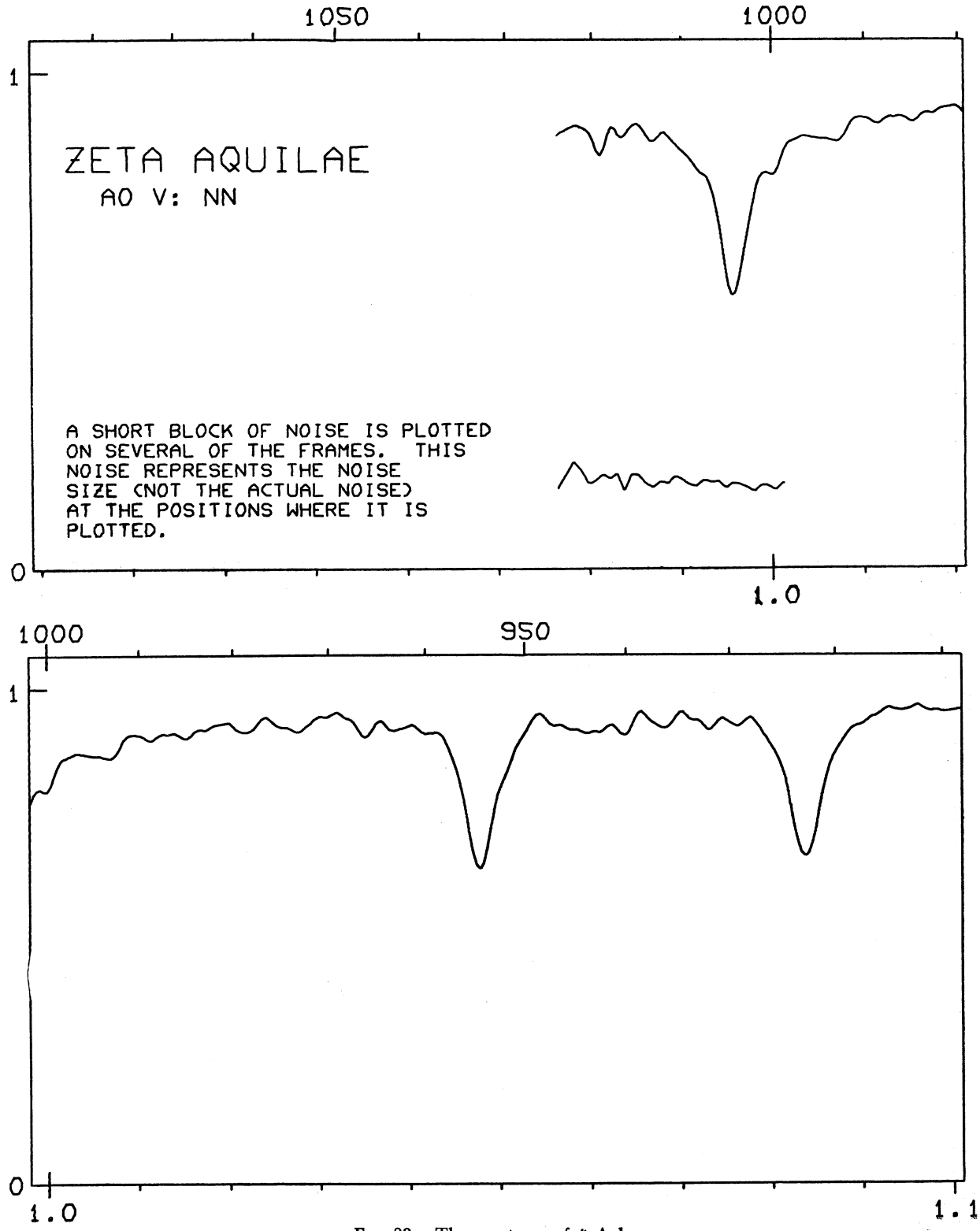


FIG. 28. The spectrum of ζ Aql.

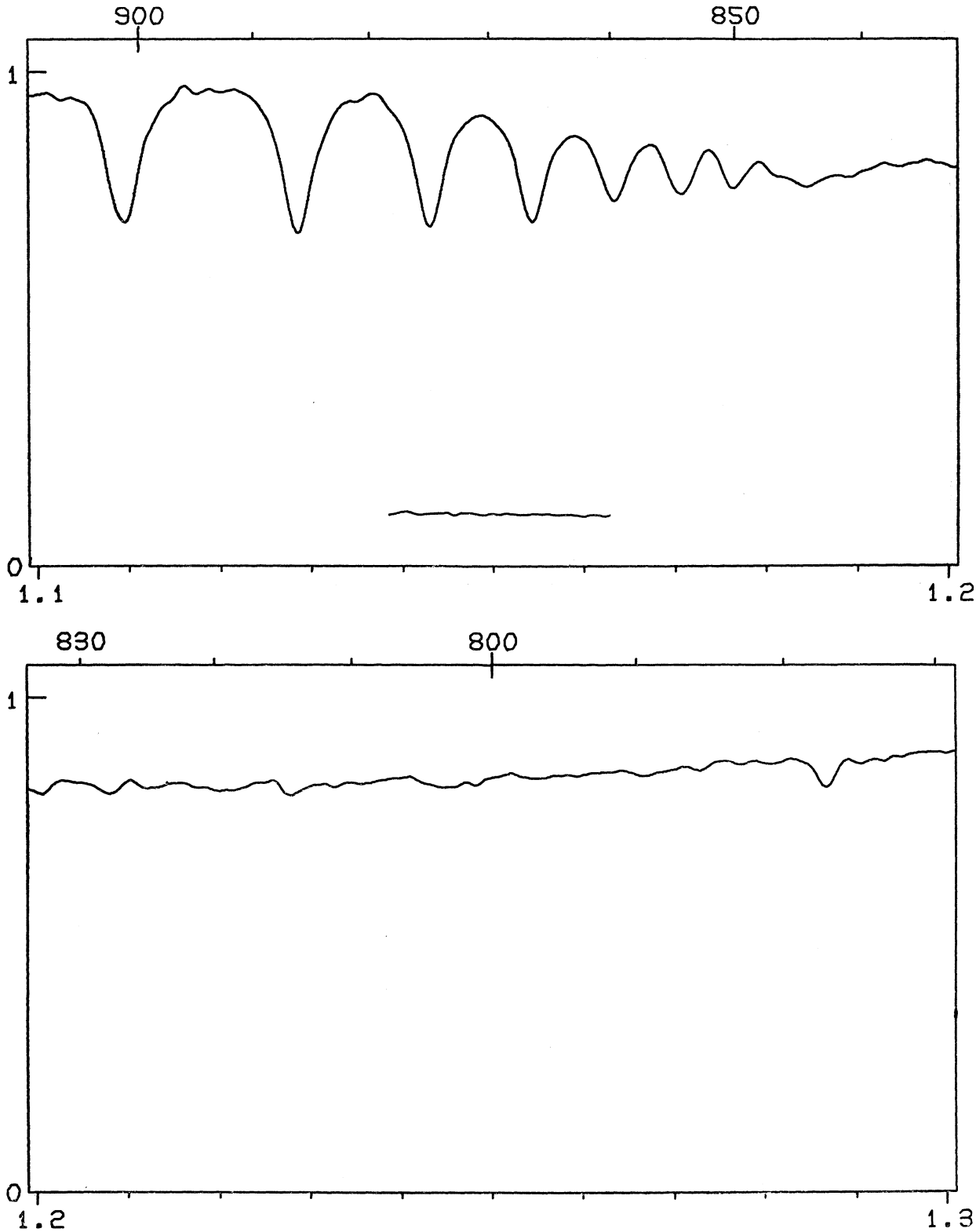


FIG. 28. The spectrum of ζ Aql.

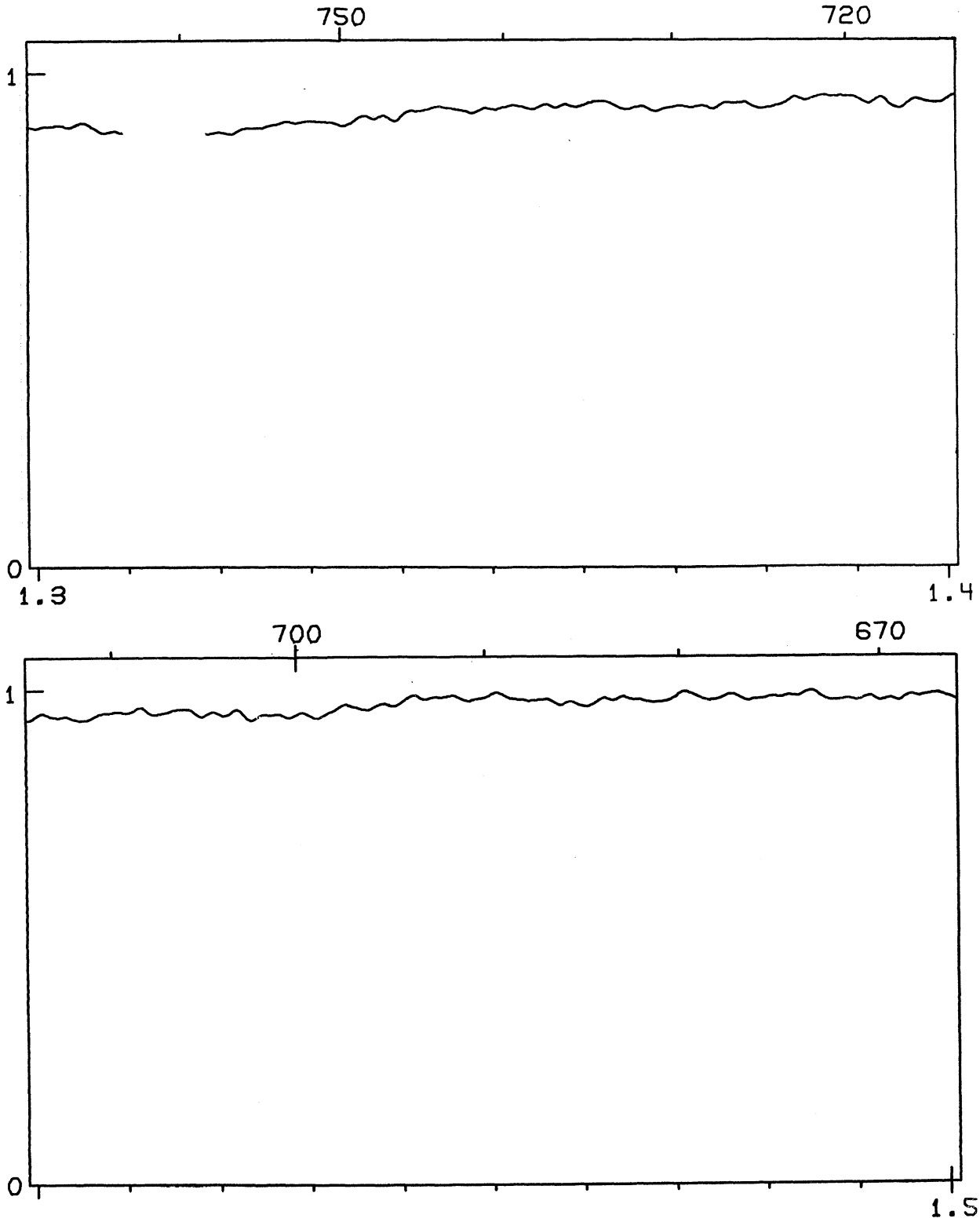


FIG. 28. The spectrum of ζ Aql.

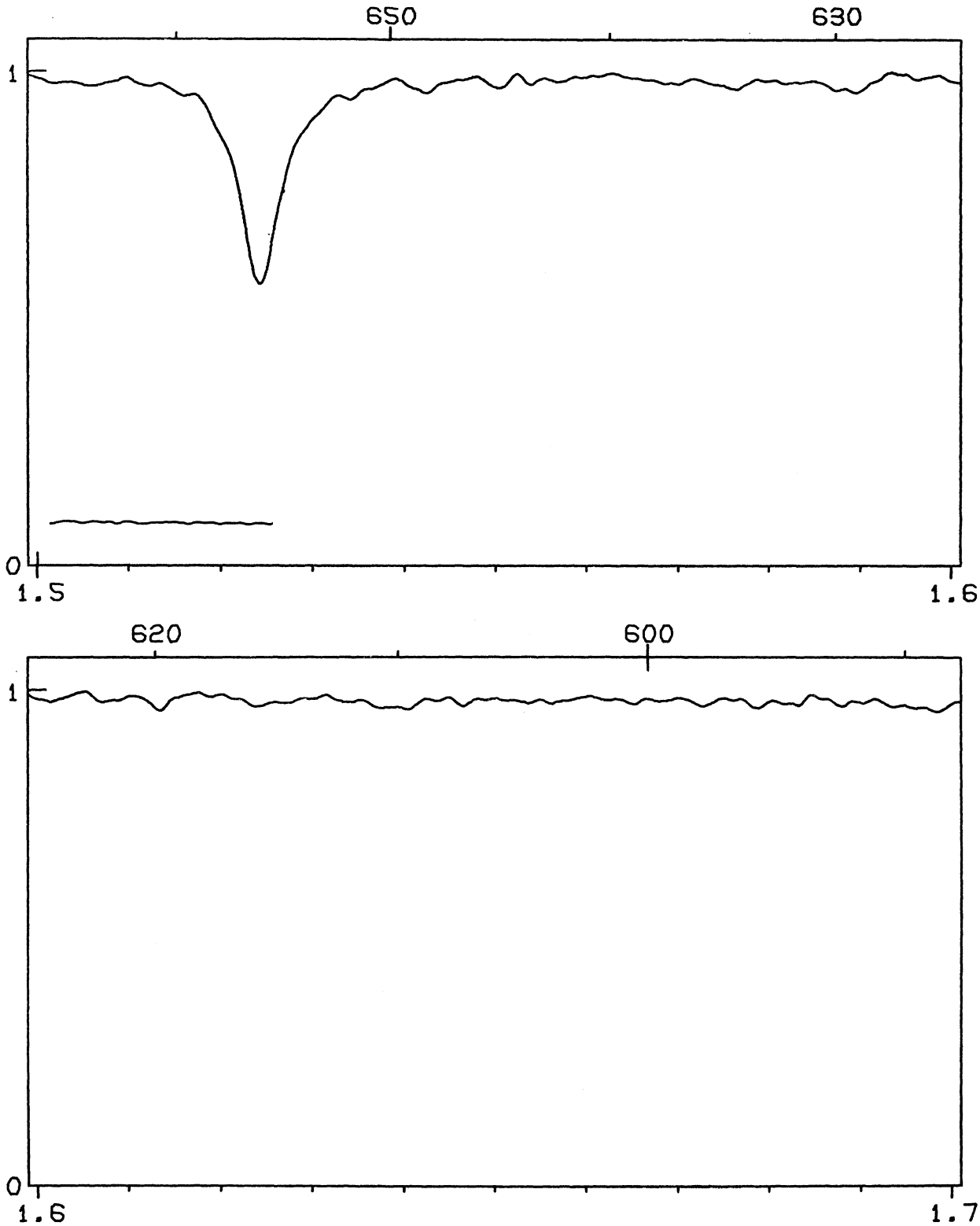


FIG. 28. The spectrum of ζ Aql.

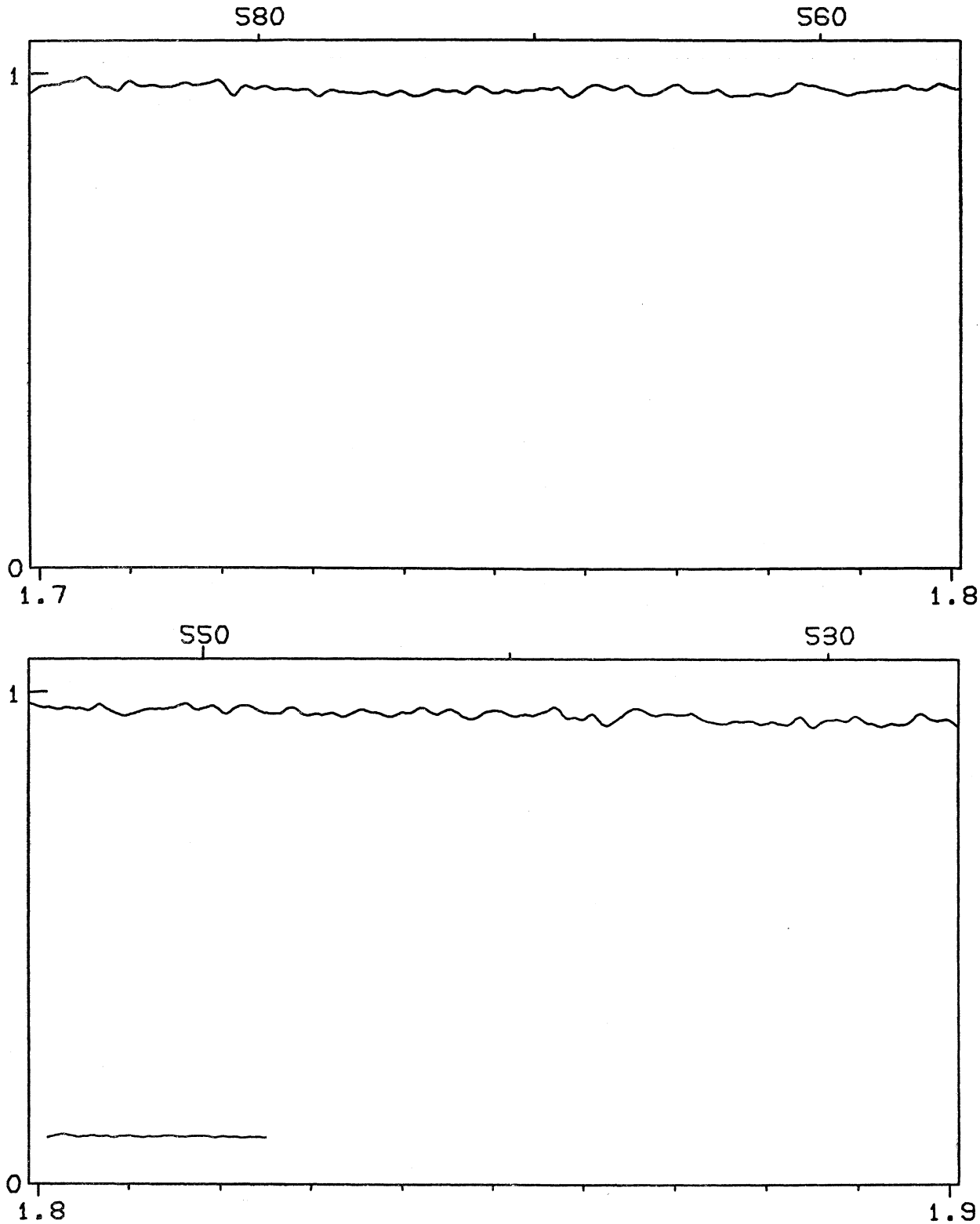


FIG. 28. The spectrum of ζ Aql.

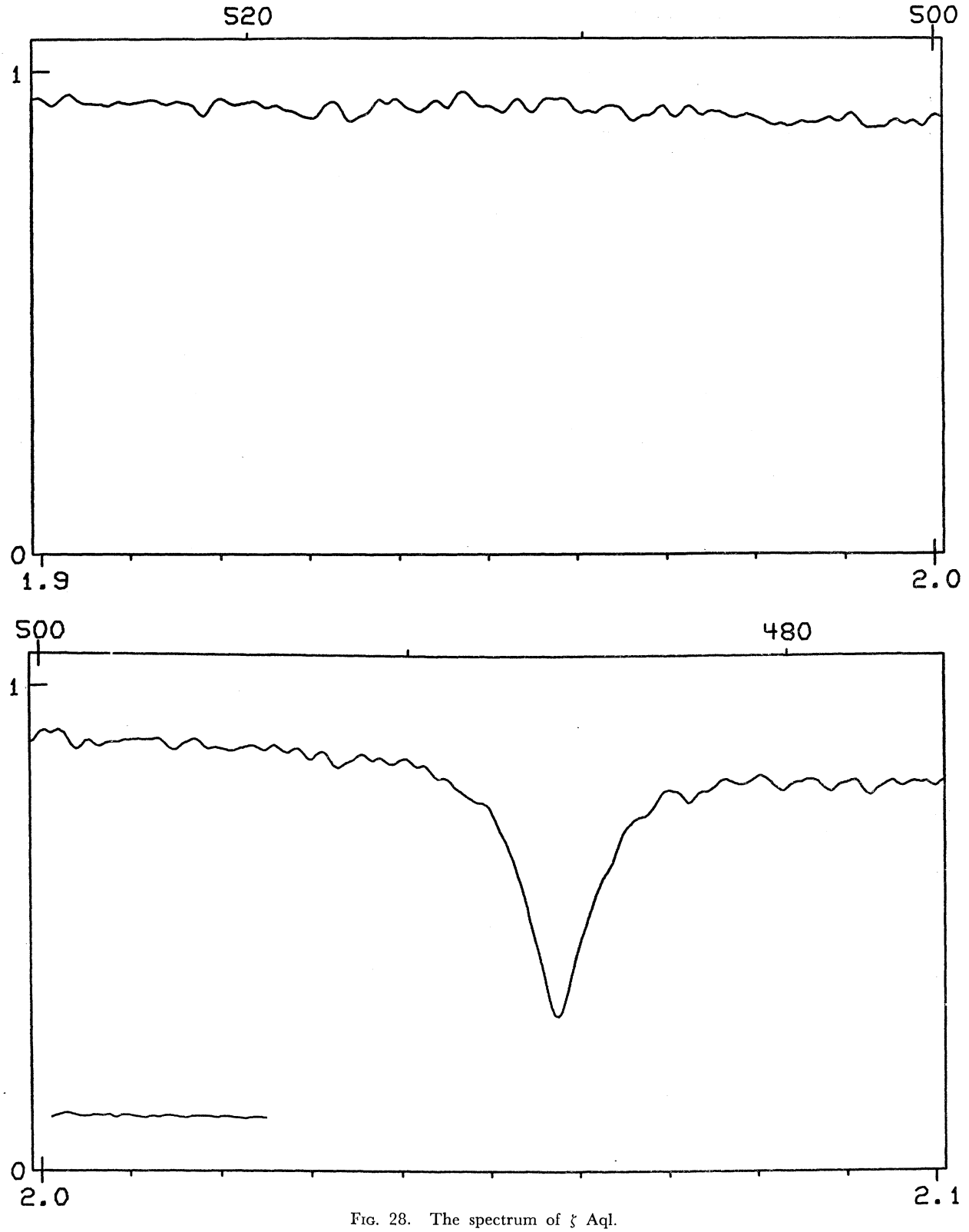


FIG. 28. The spectrum of ζ Aql.

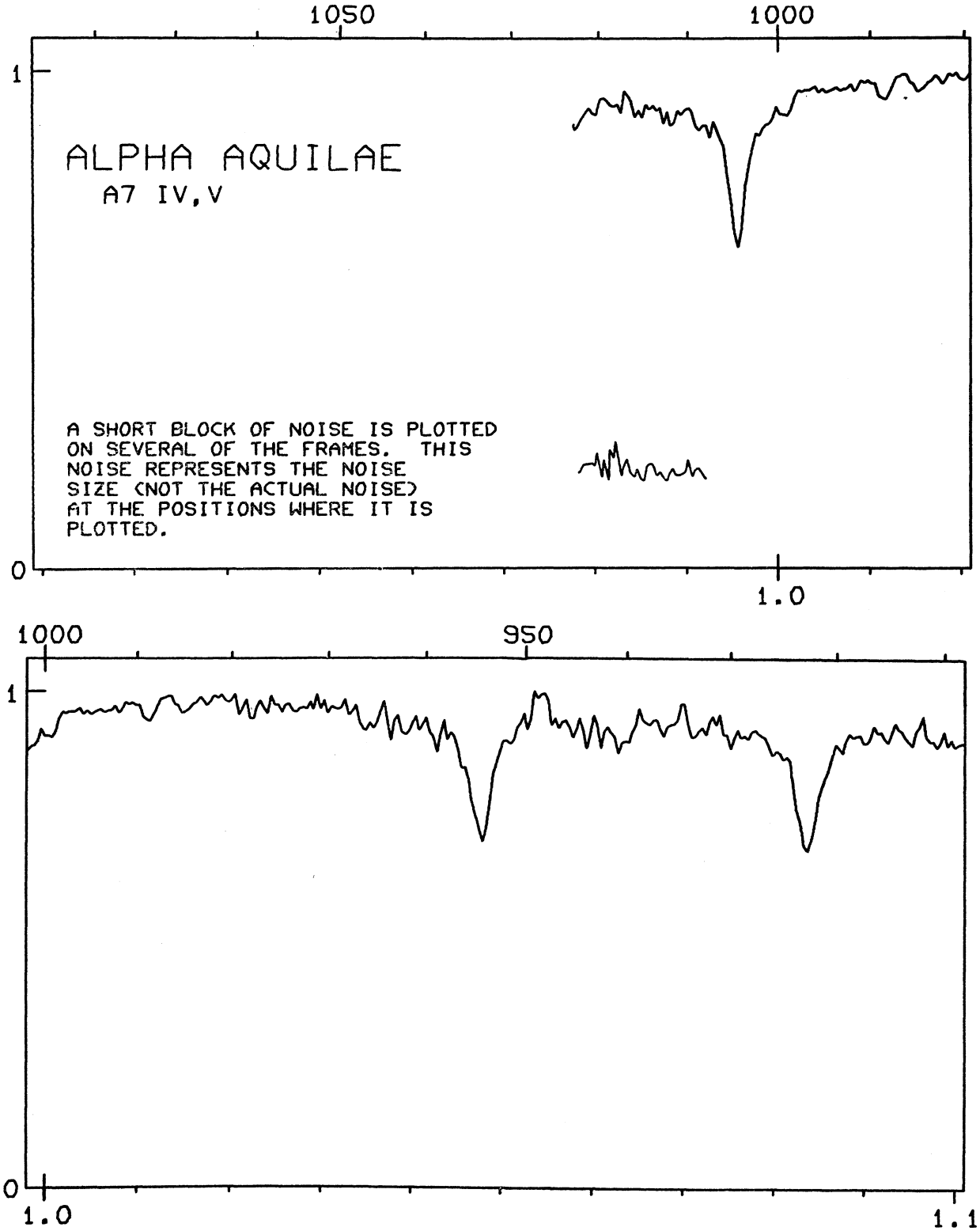


FIG. 29. The spectrum of α Aql.

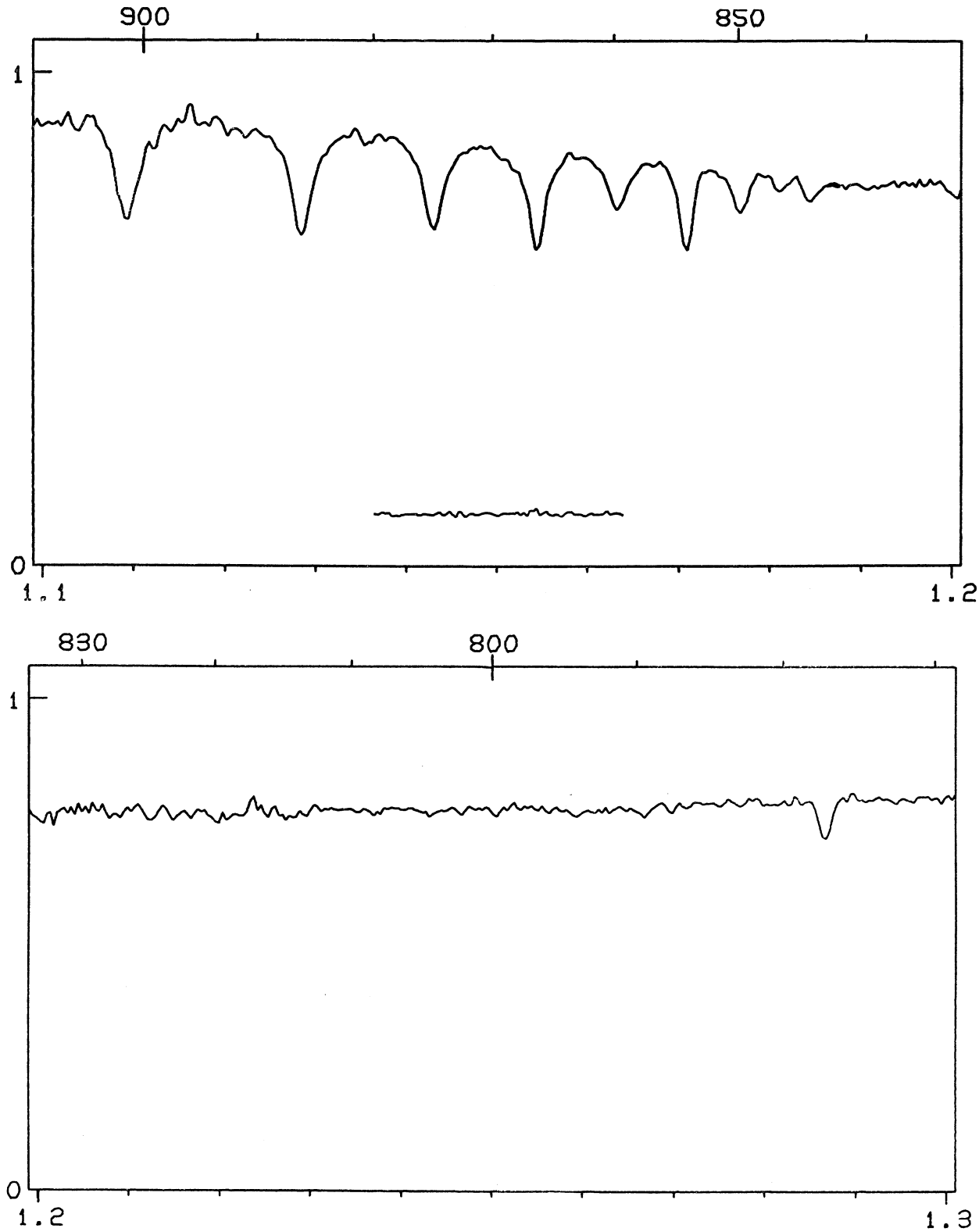


FIG. 29. The spectrum of α Aql.

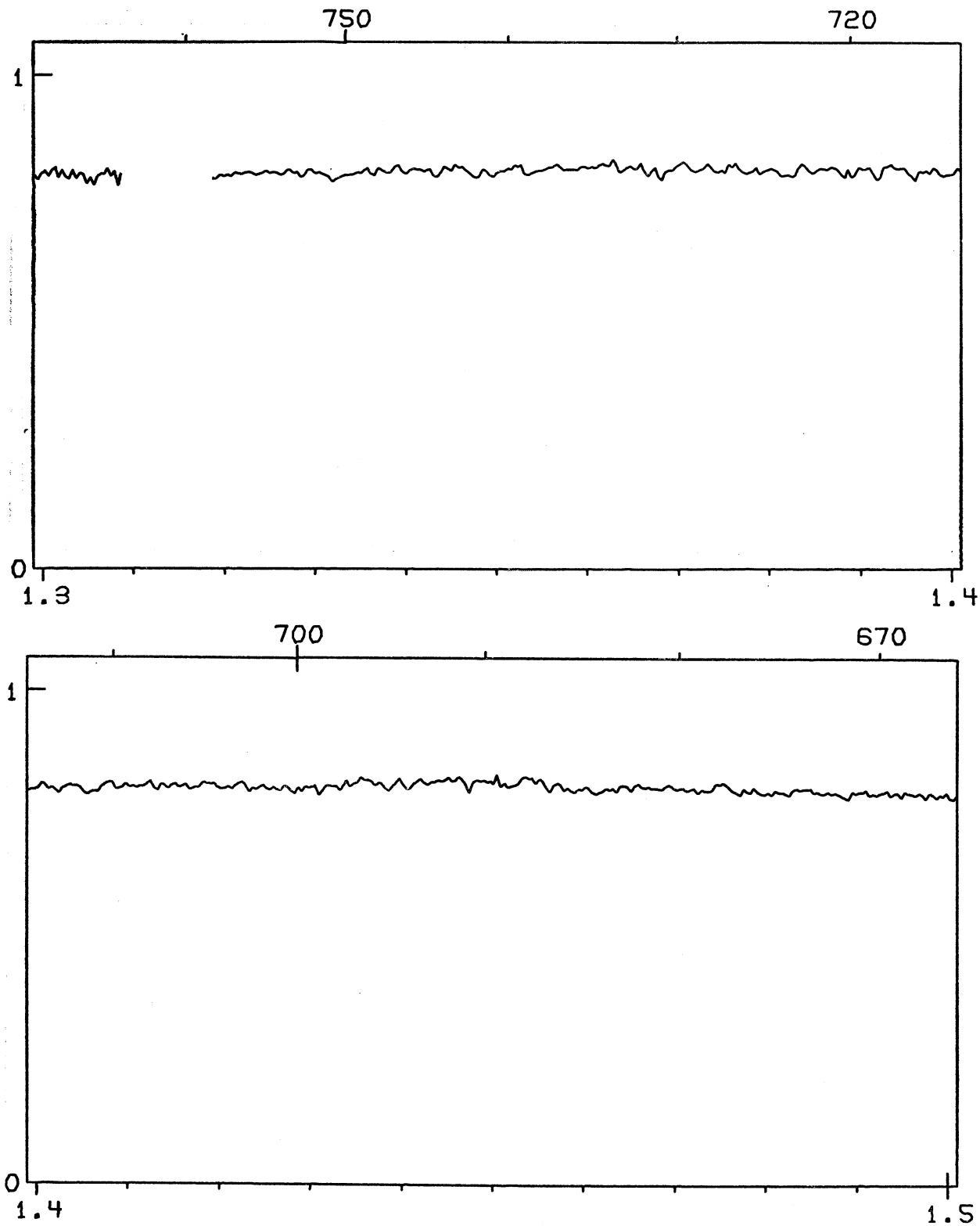


FIG. 29. The spectrum of α Aql.

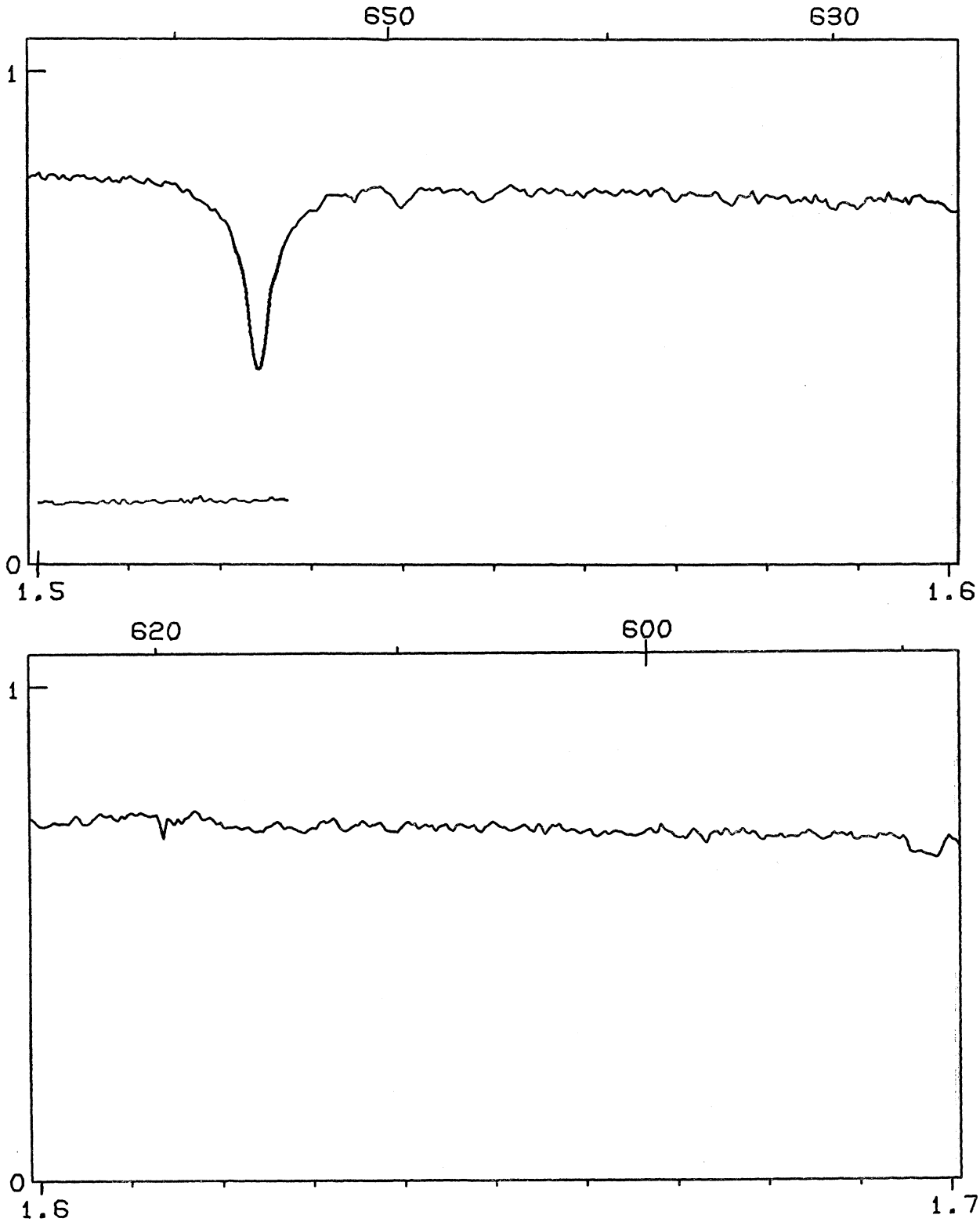


FIG. 29. The spectrum of α Aql.

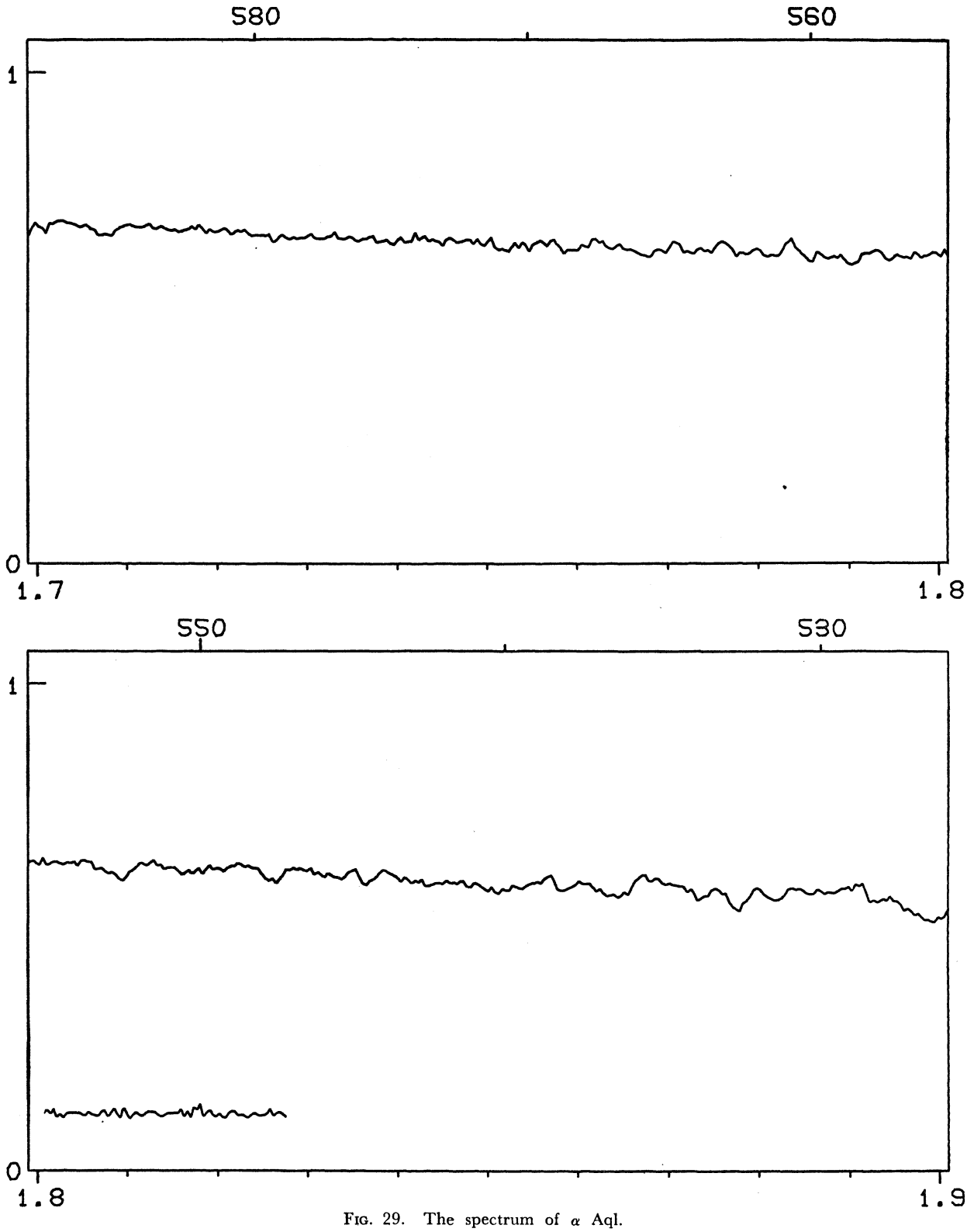


FIG. 29. The spectrum of α Aql.

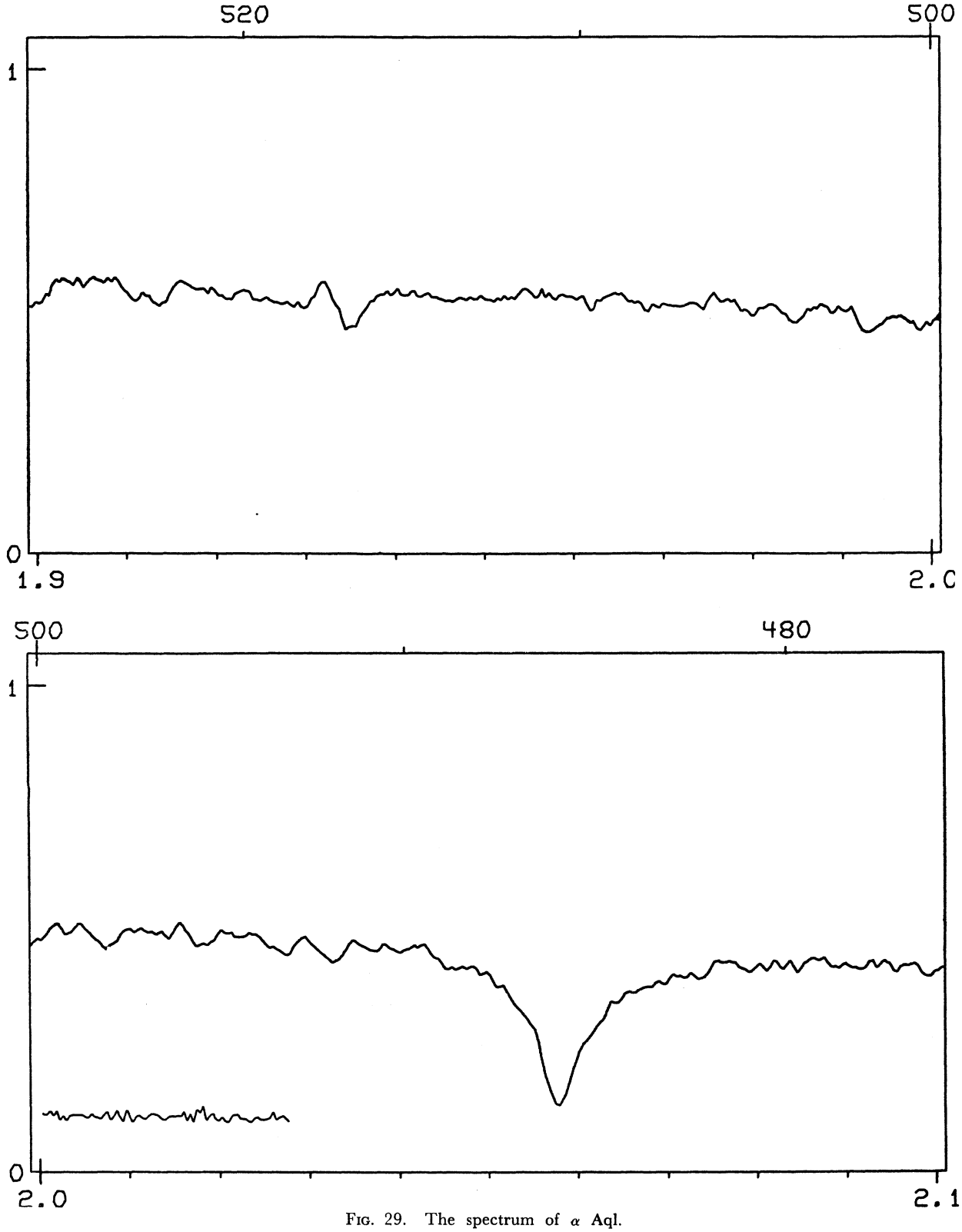


FIG. 29. The spectrum of α Aql.

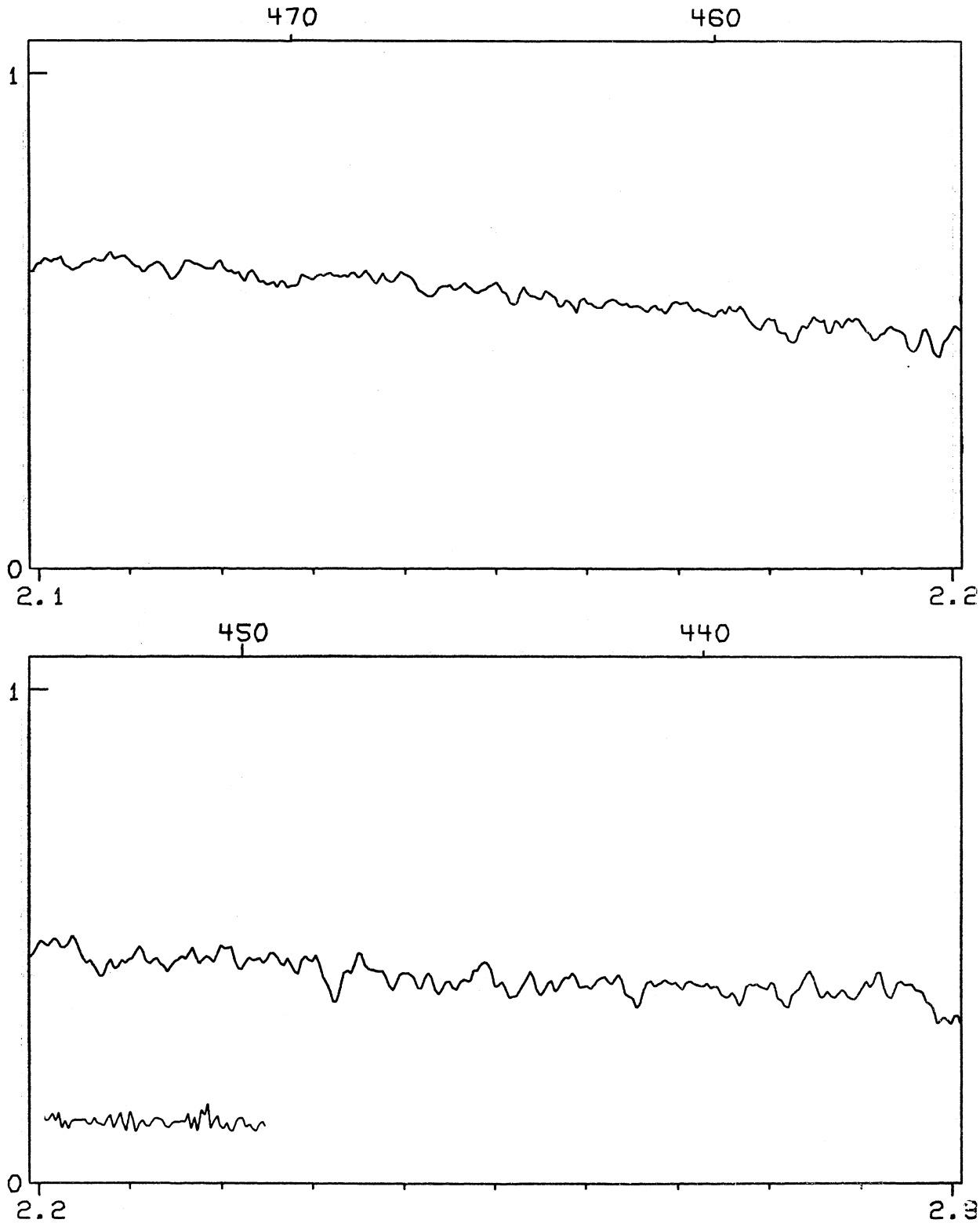


FIG. 29. The spectrum of α Aql.

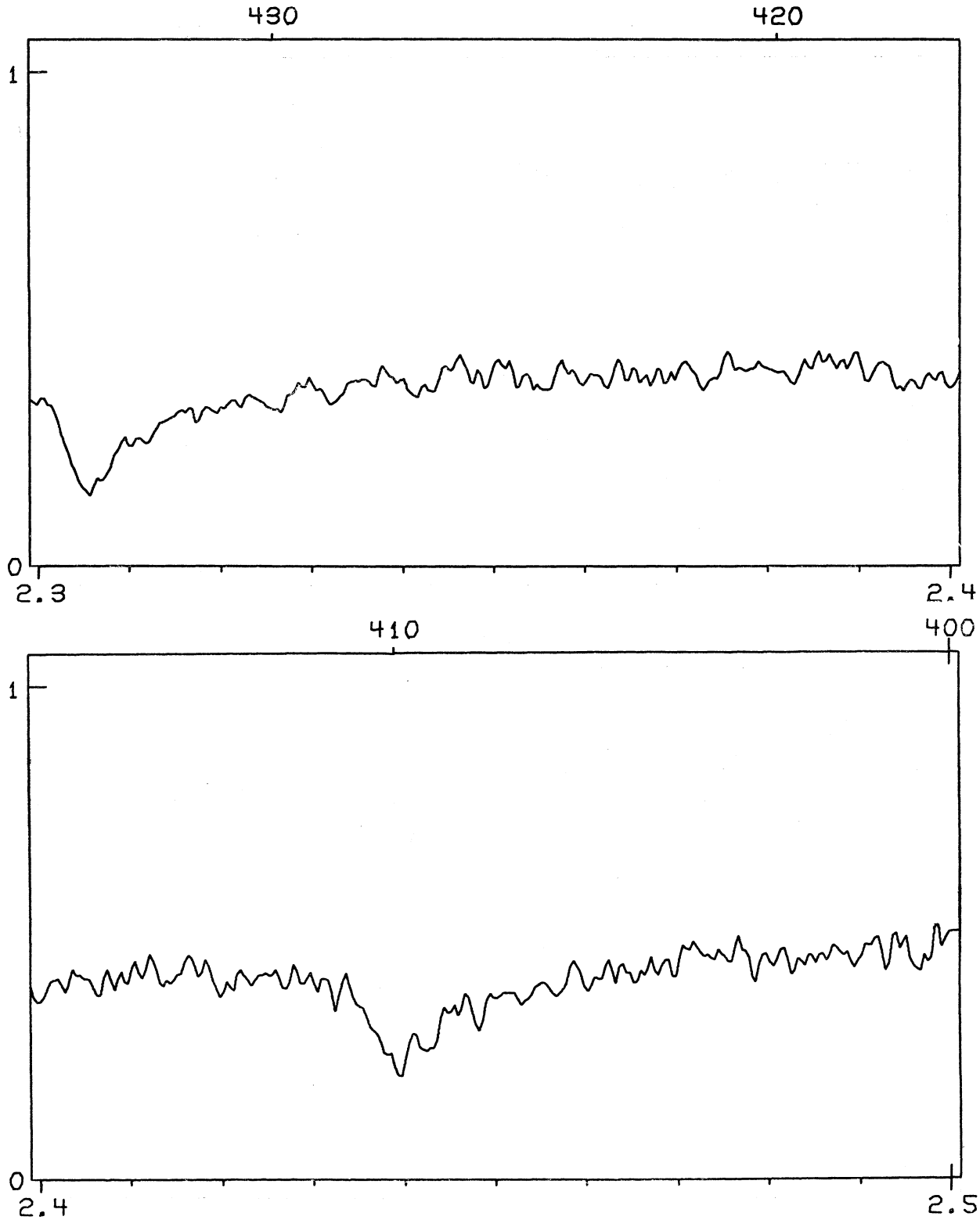


FIG. 29. The spectrum of α Aql.

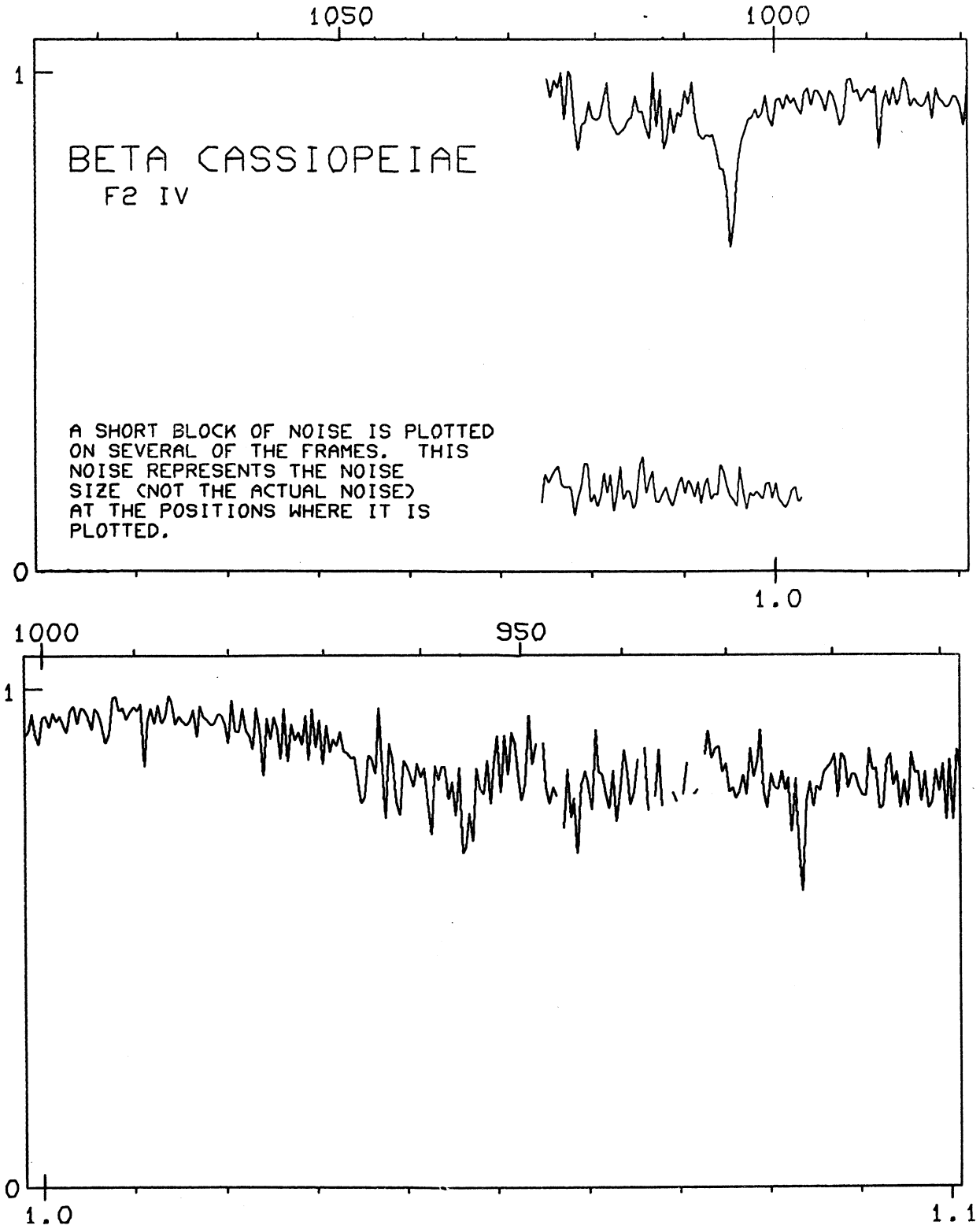


FIG. 30. The spectrum of β Cas.

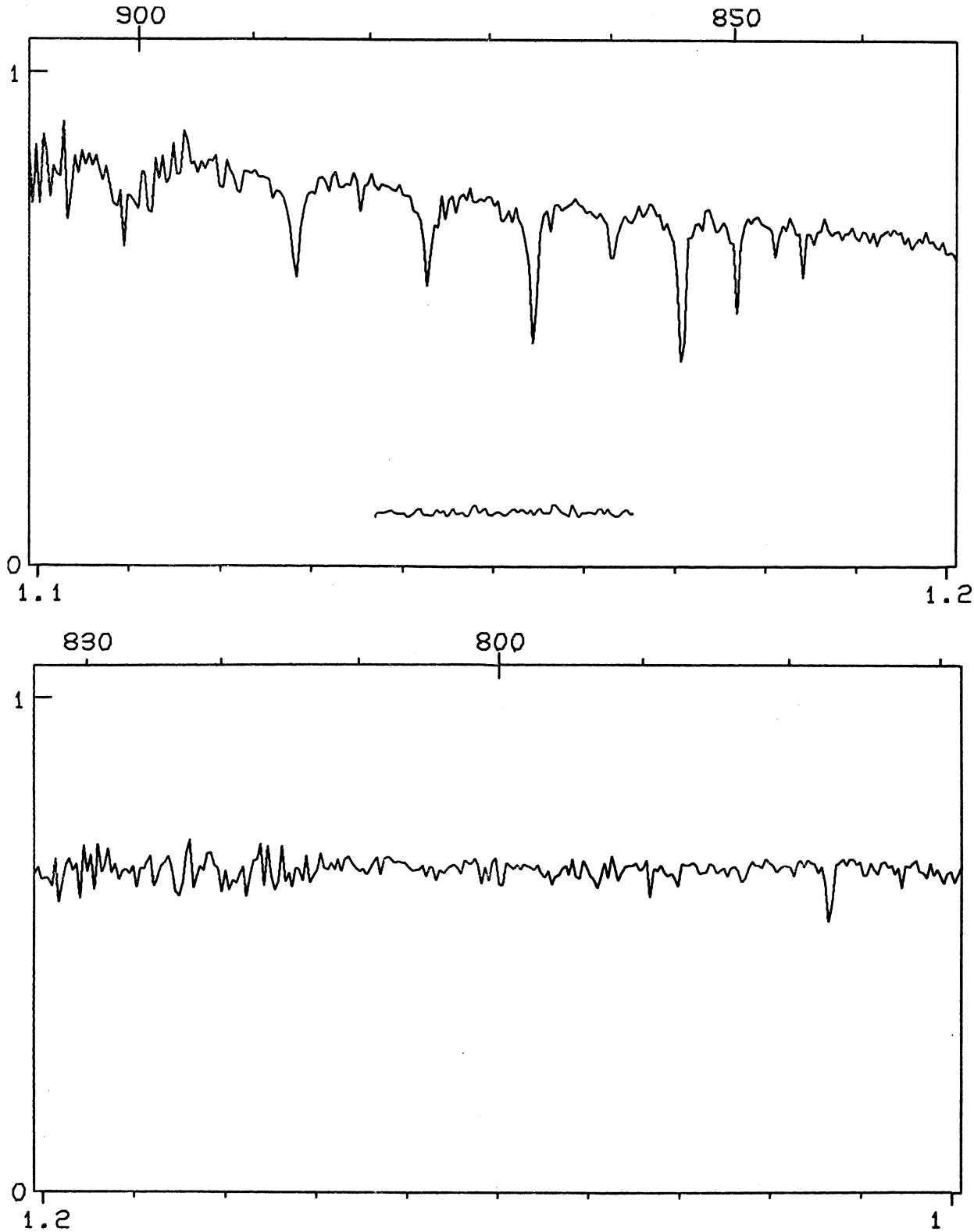


FIG. 30. The spectrum of β Cas.

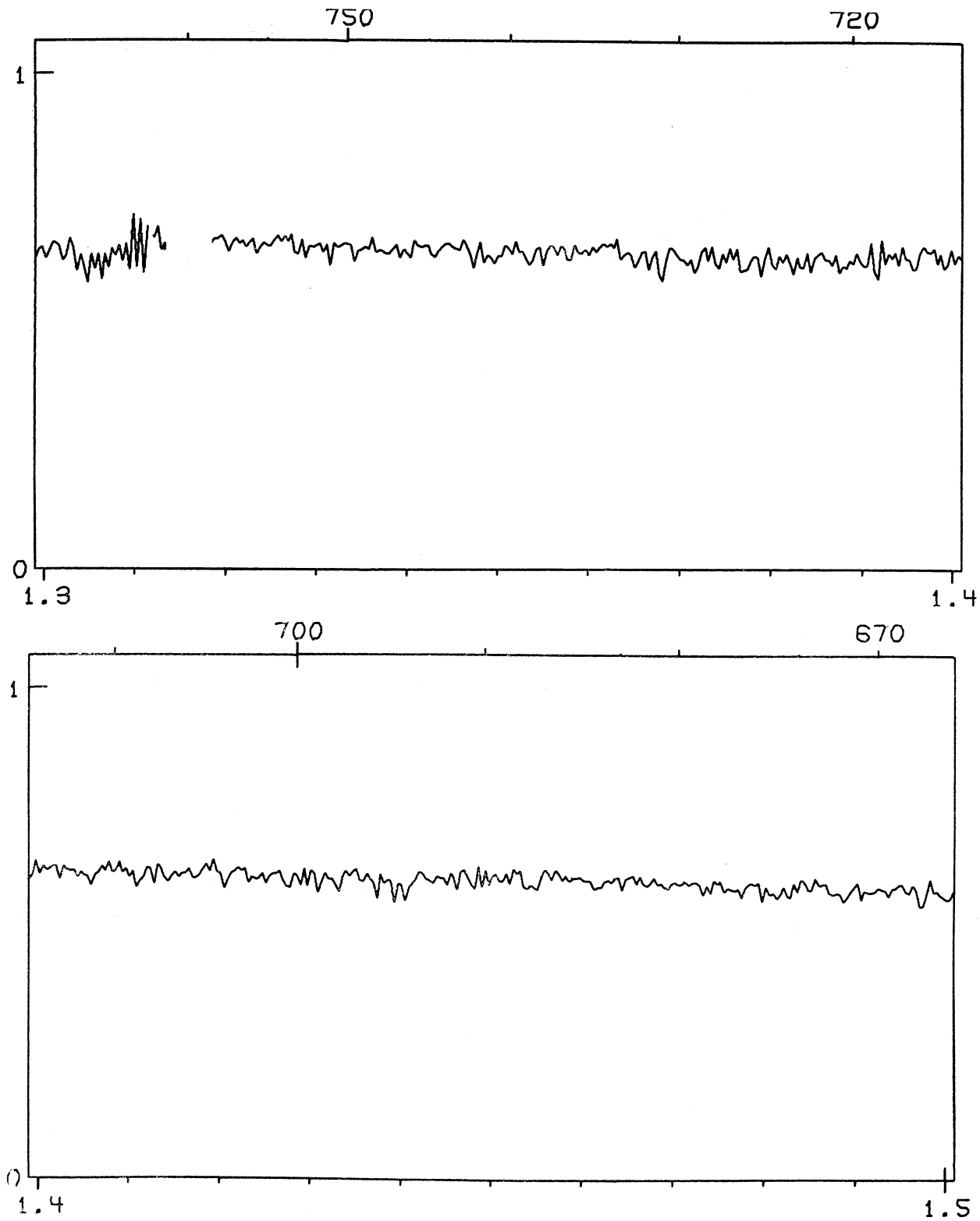
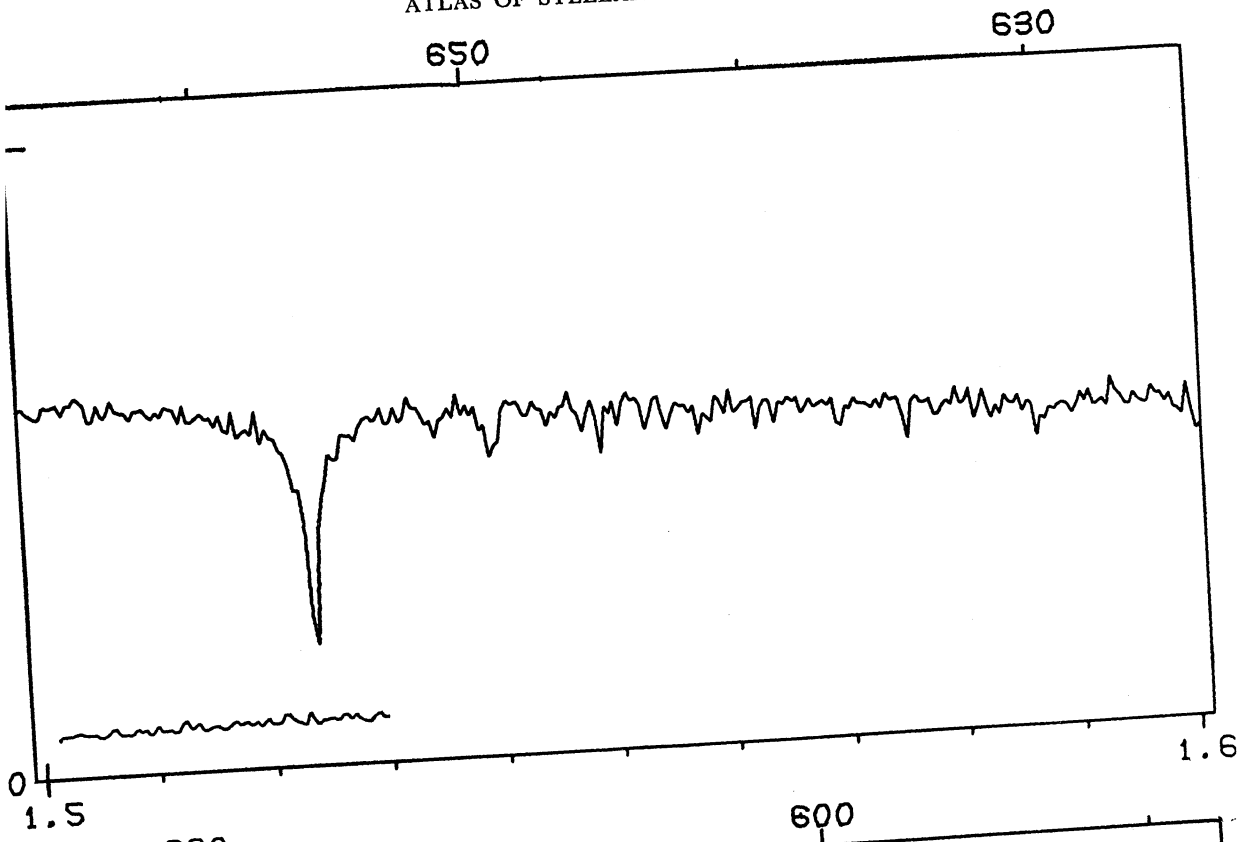


FIG. 30. The spectrum of β Cas.



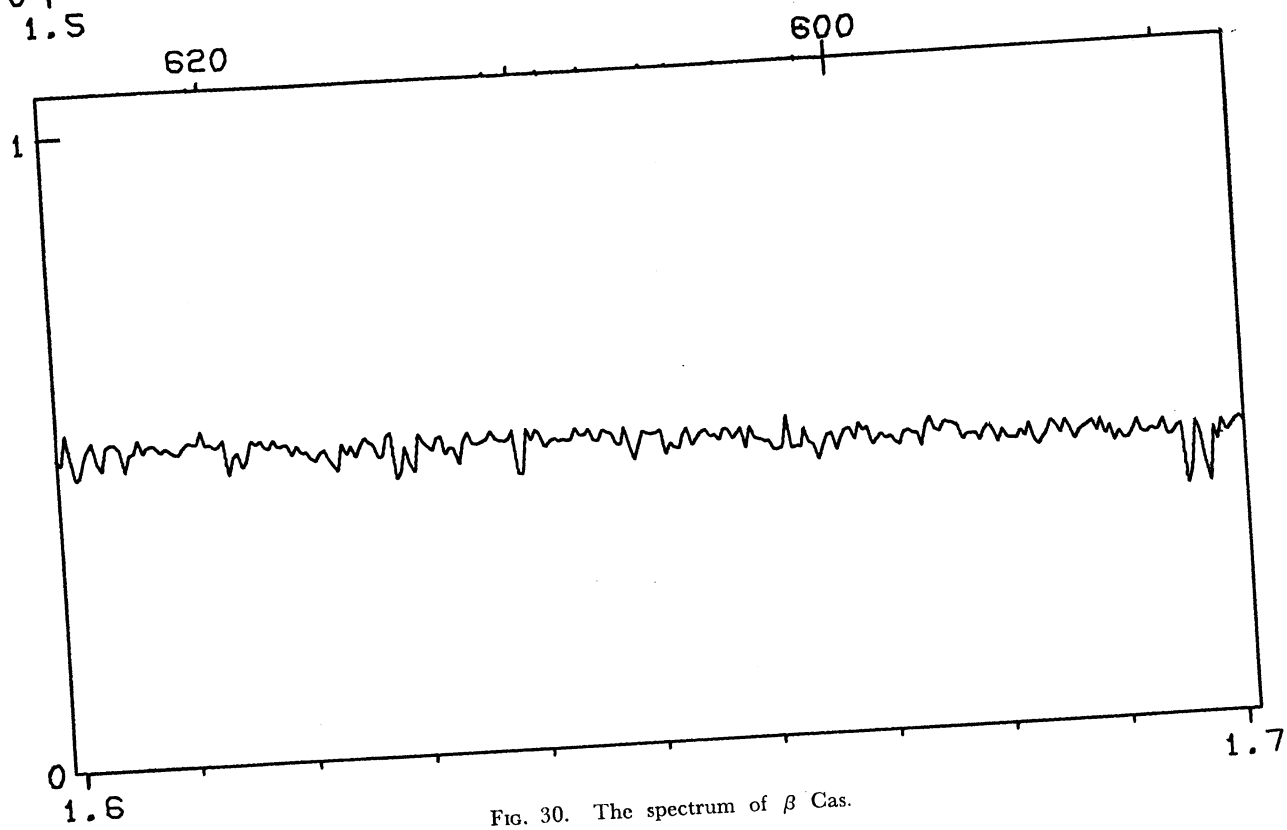


FIG. 30. The spectrum of β Cas.

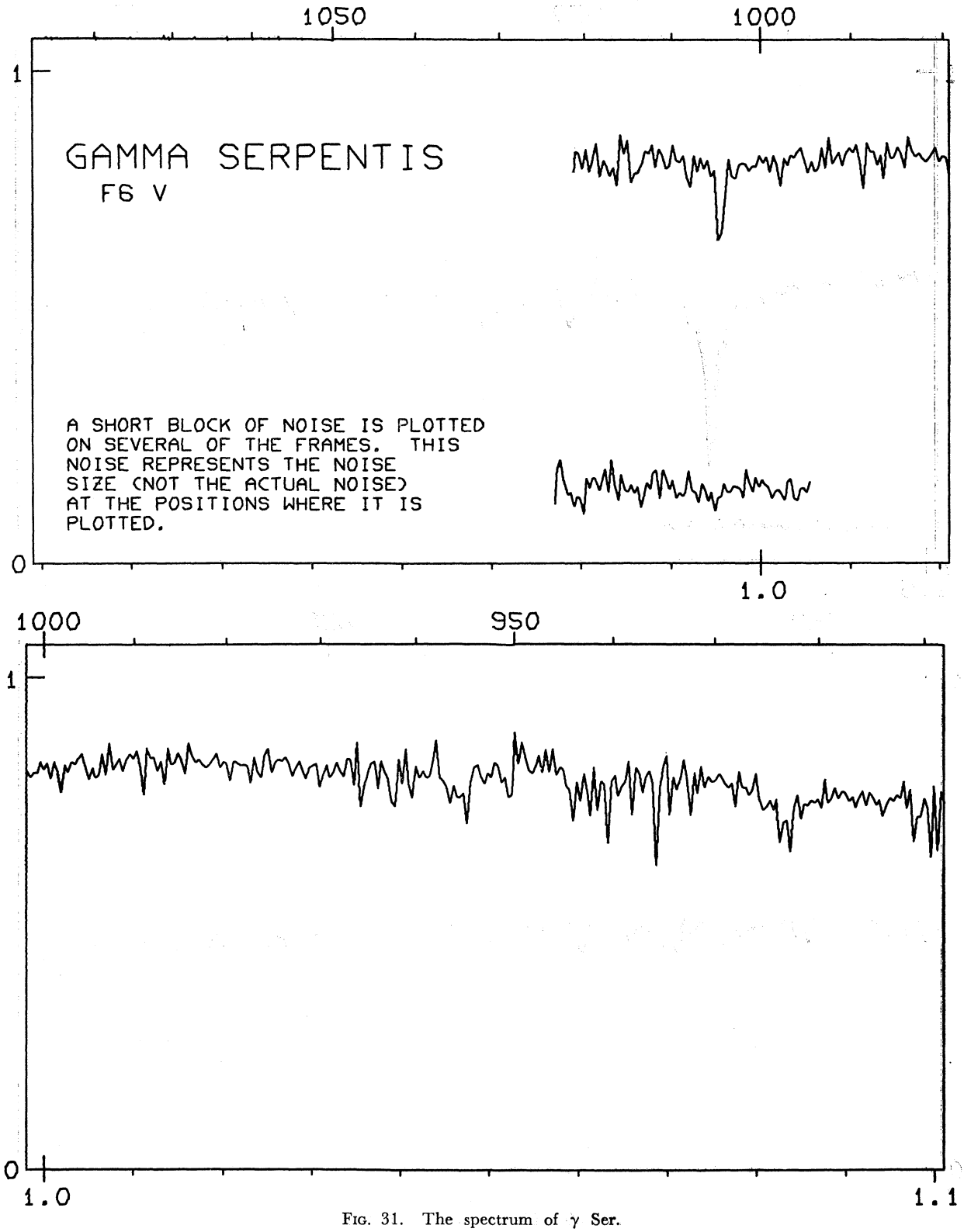


FIG. 31. The spectrum of γ Ser.

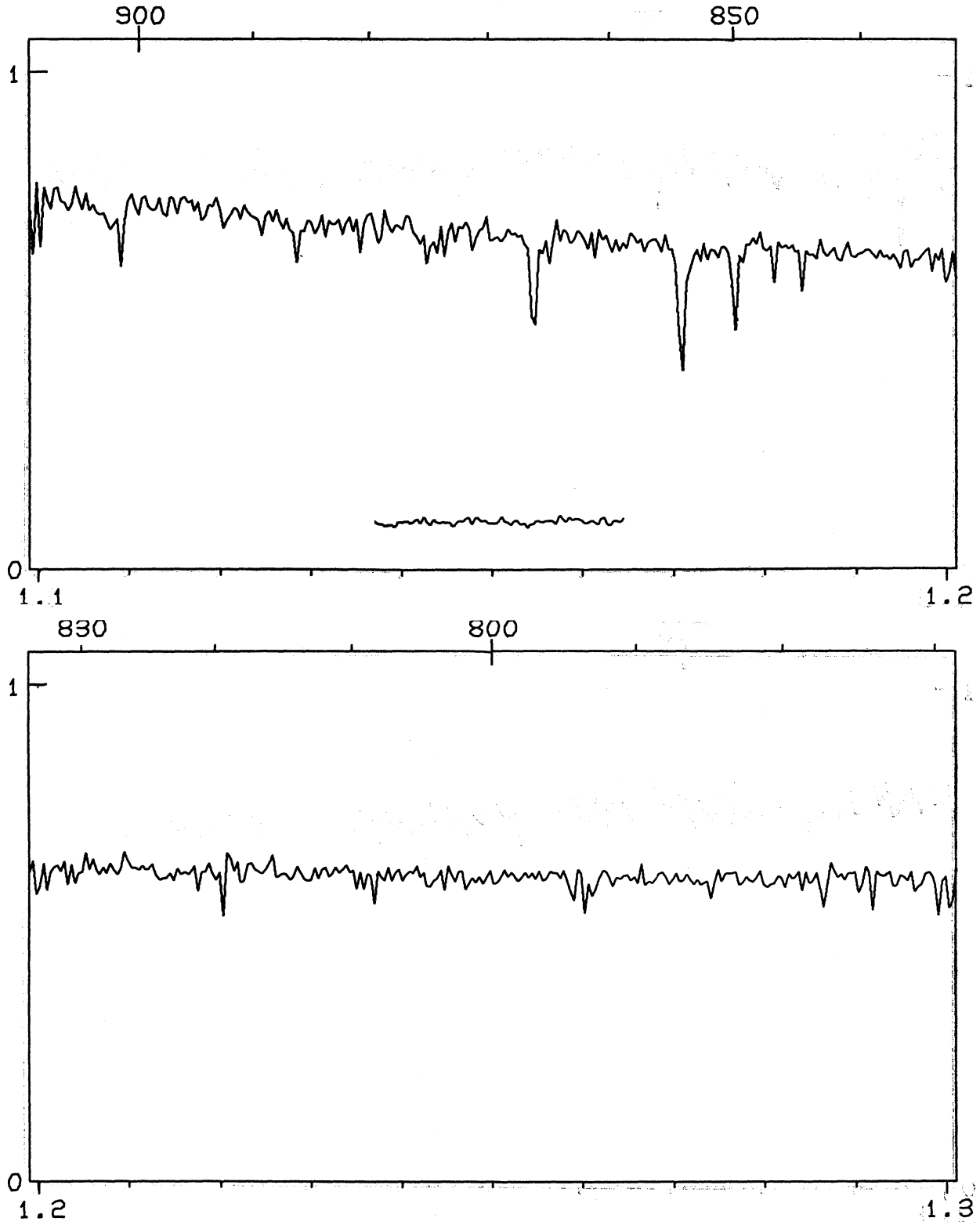


FIG. 31. The spectrum of γ Ser.

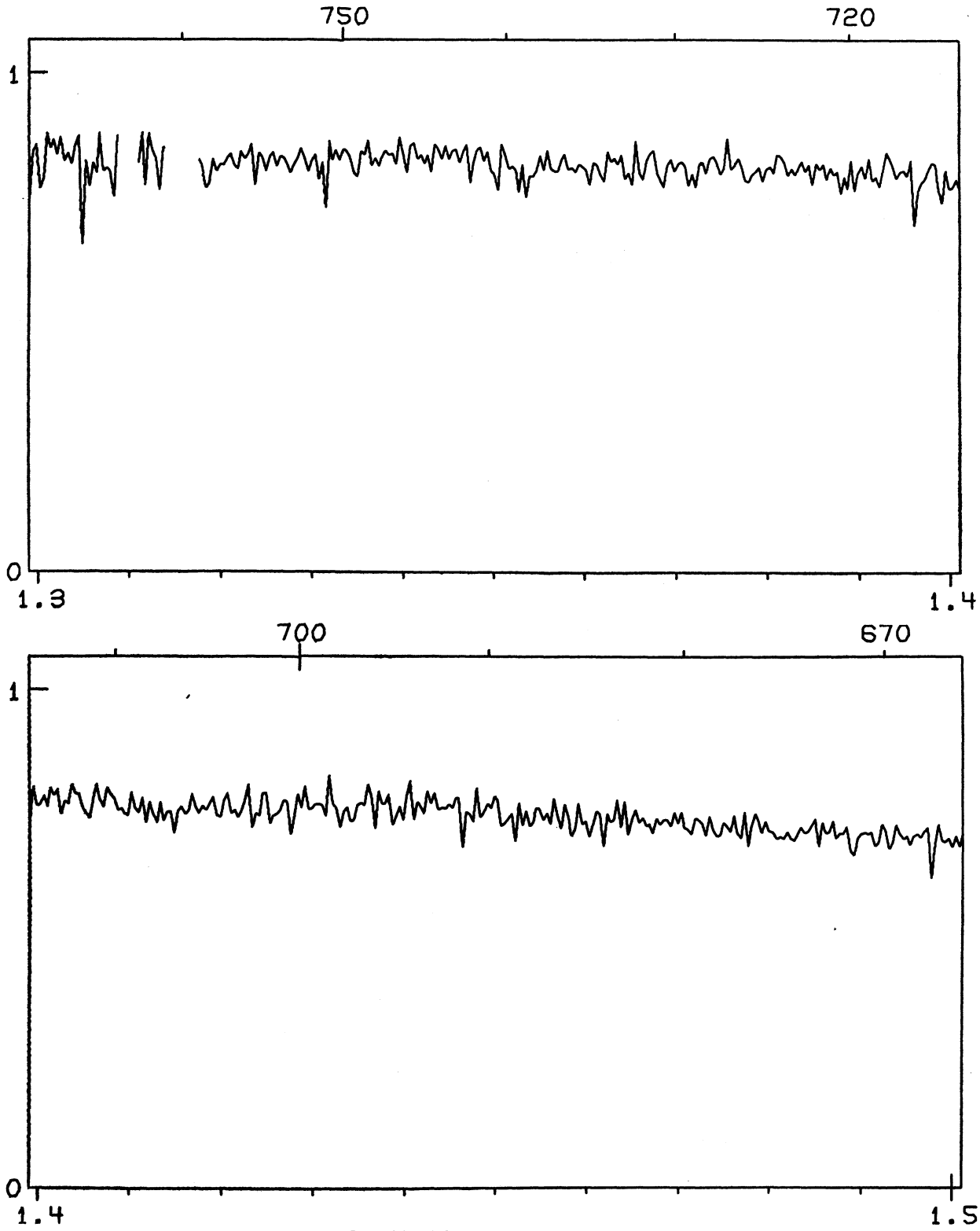


FIG. 31. The spectrum of γ Ser.

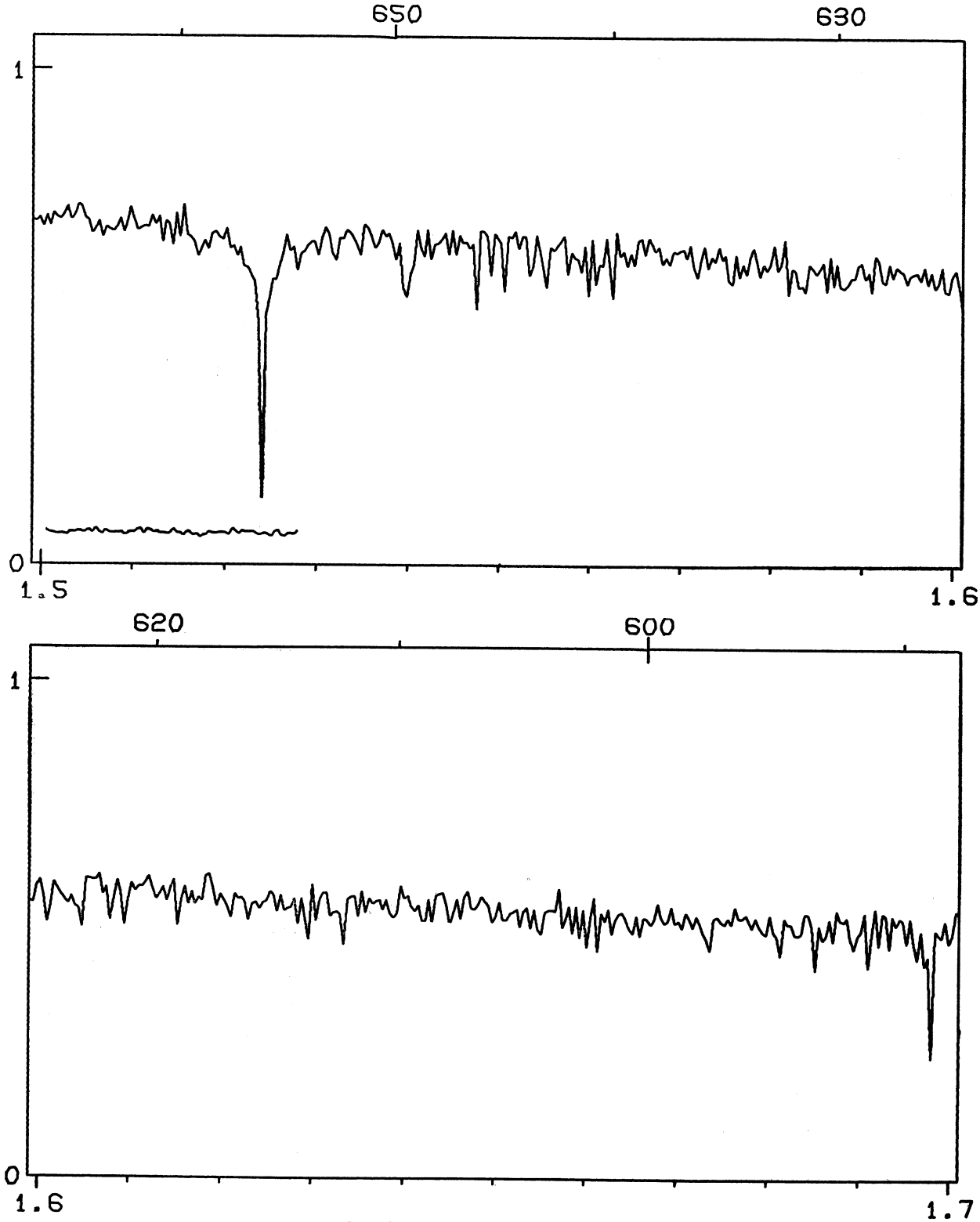


FIG. 31. The spectrum of γ Ser.

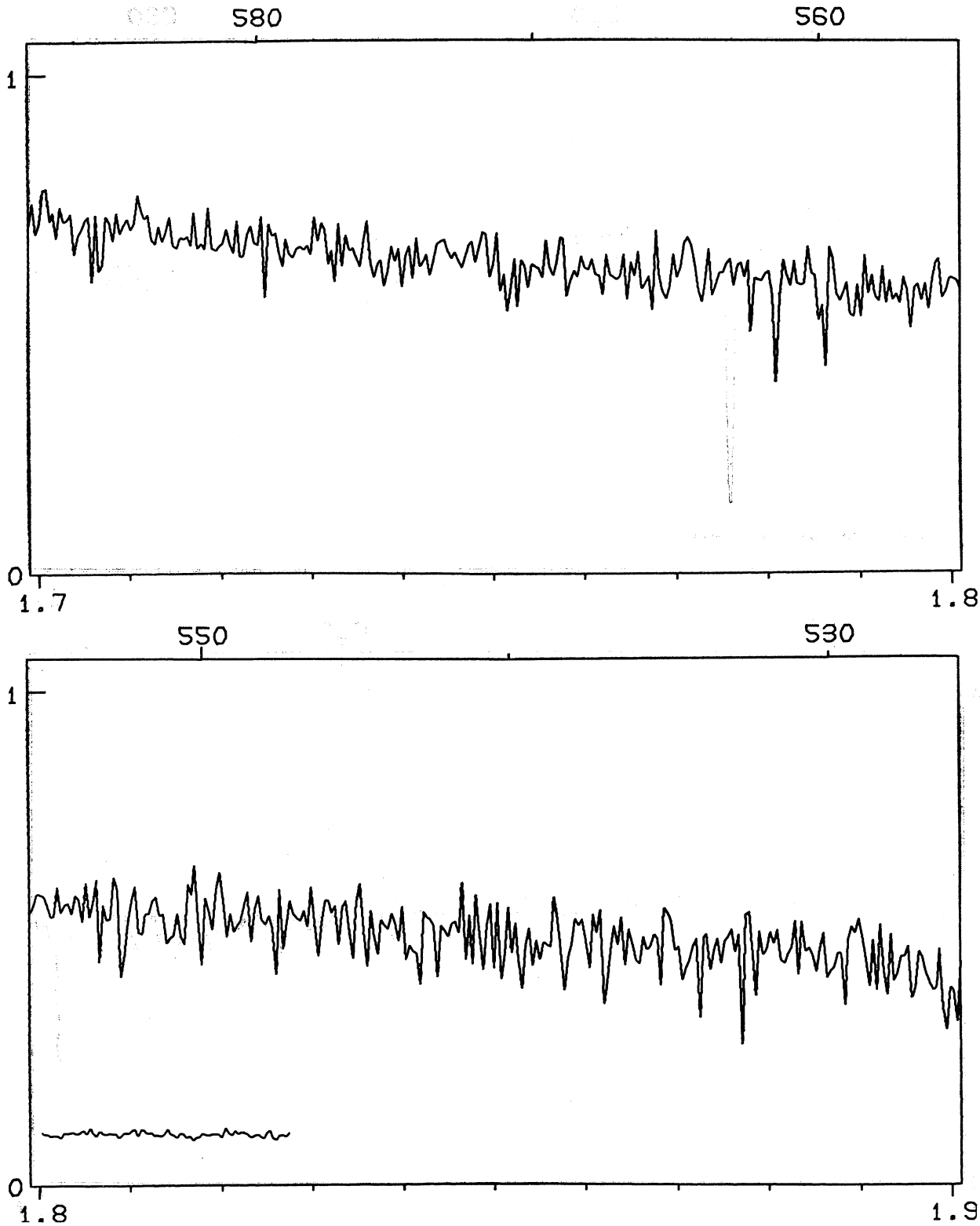


FIG. 31. The spectrum of γ Ser.

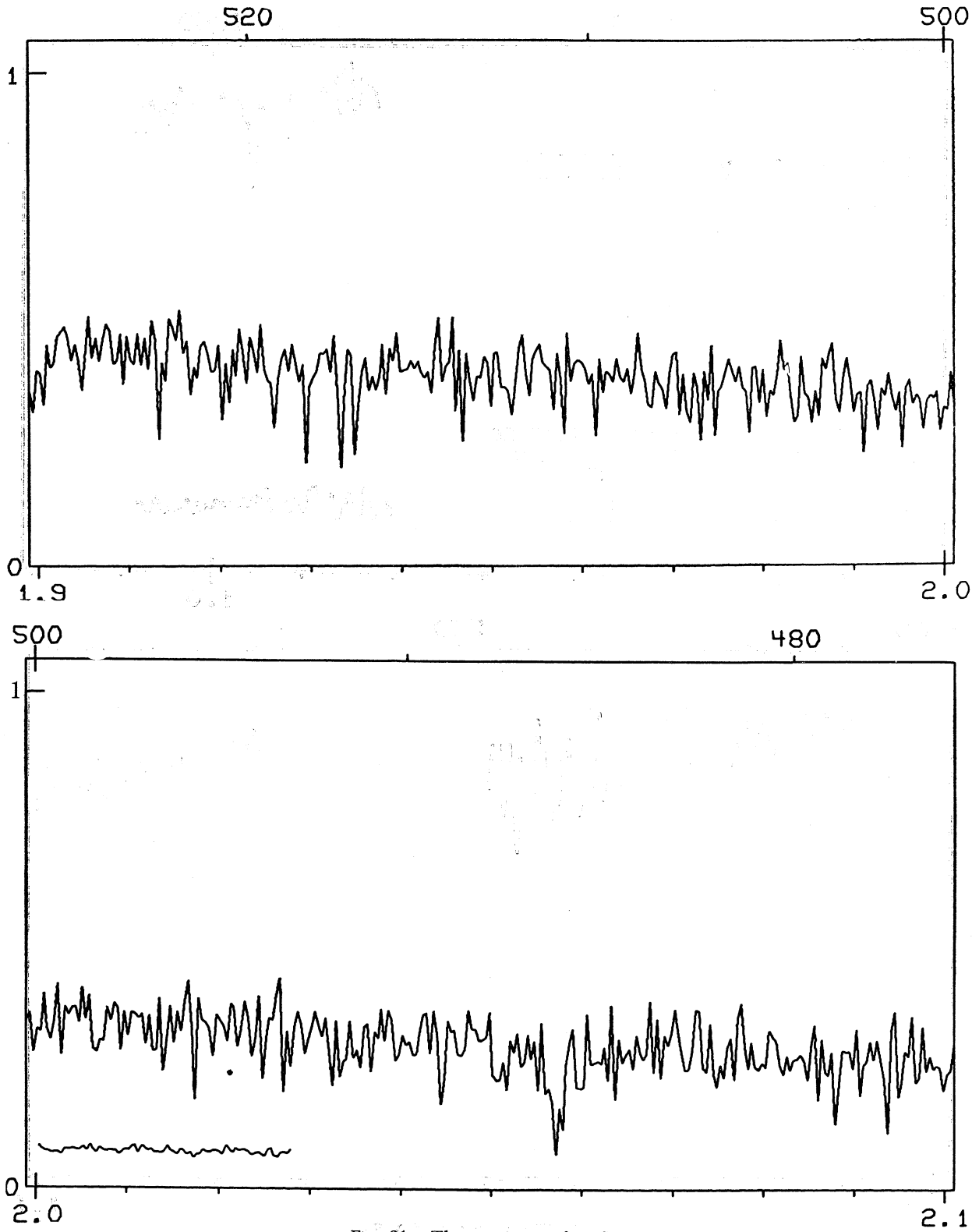


FIG. 31. The spectrum of γ Ser.

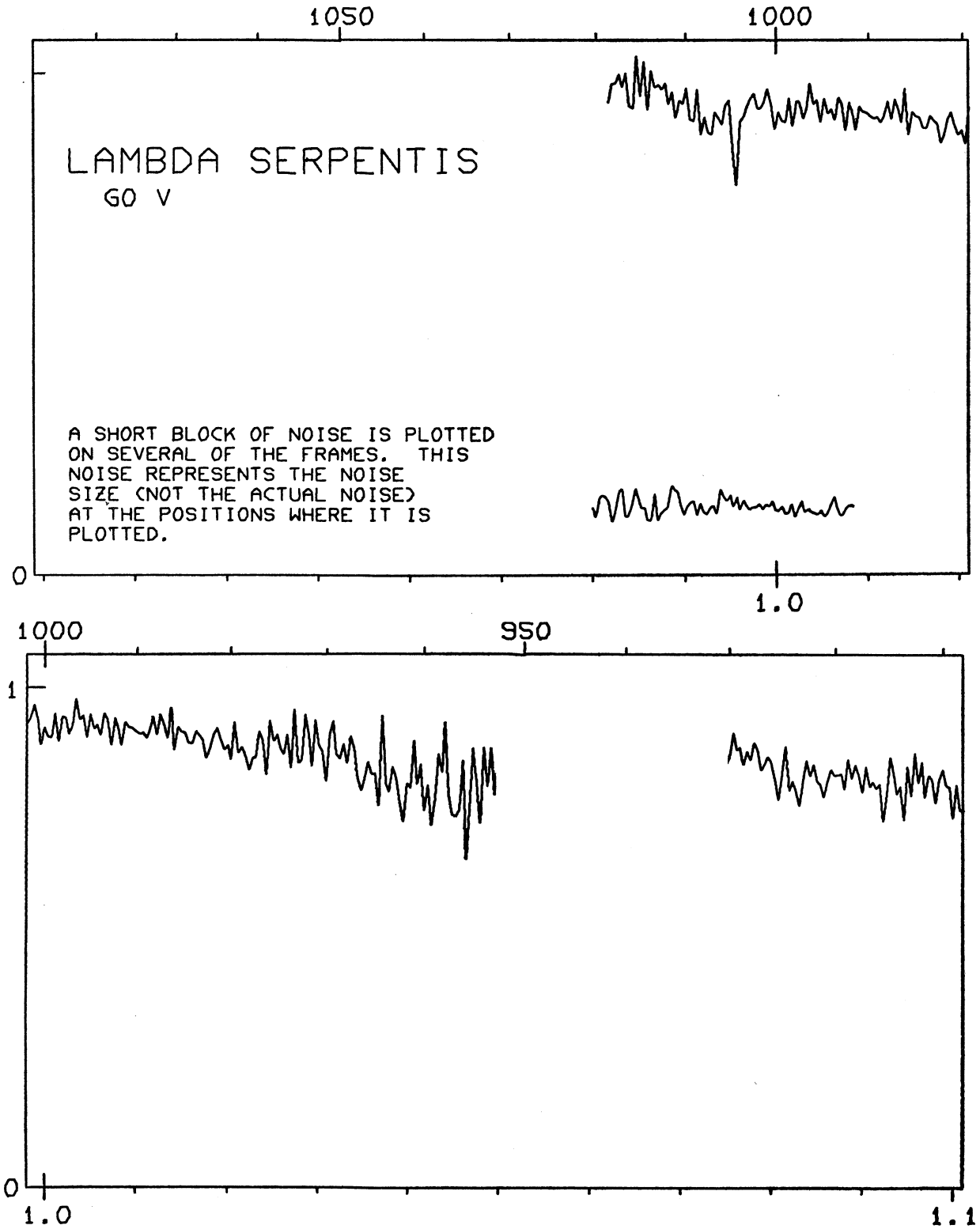


FIG. 32. The spectrum of λ Ser.

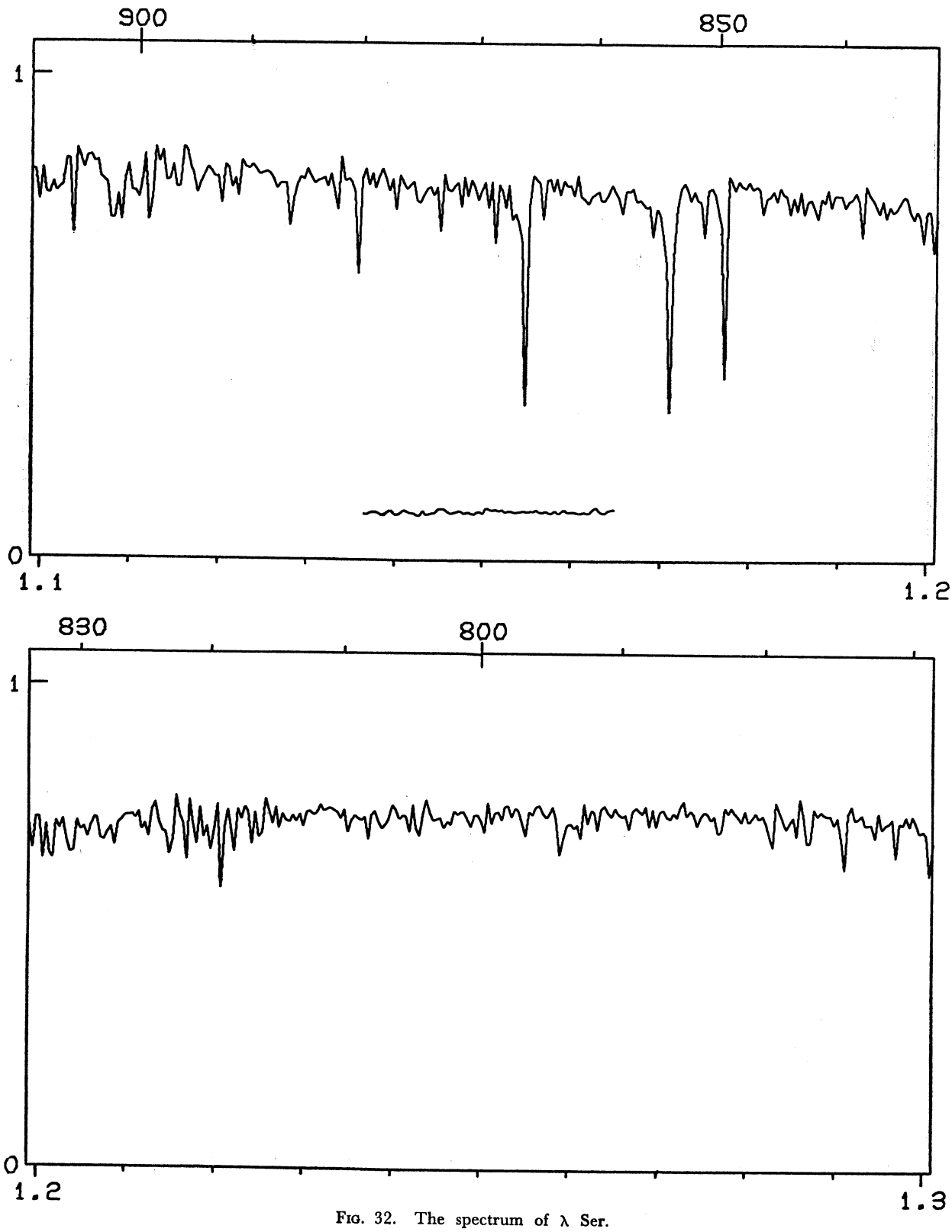


FIG. 32. The spectrum of λ Ser.

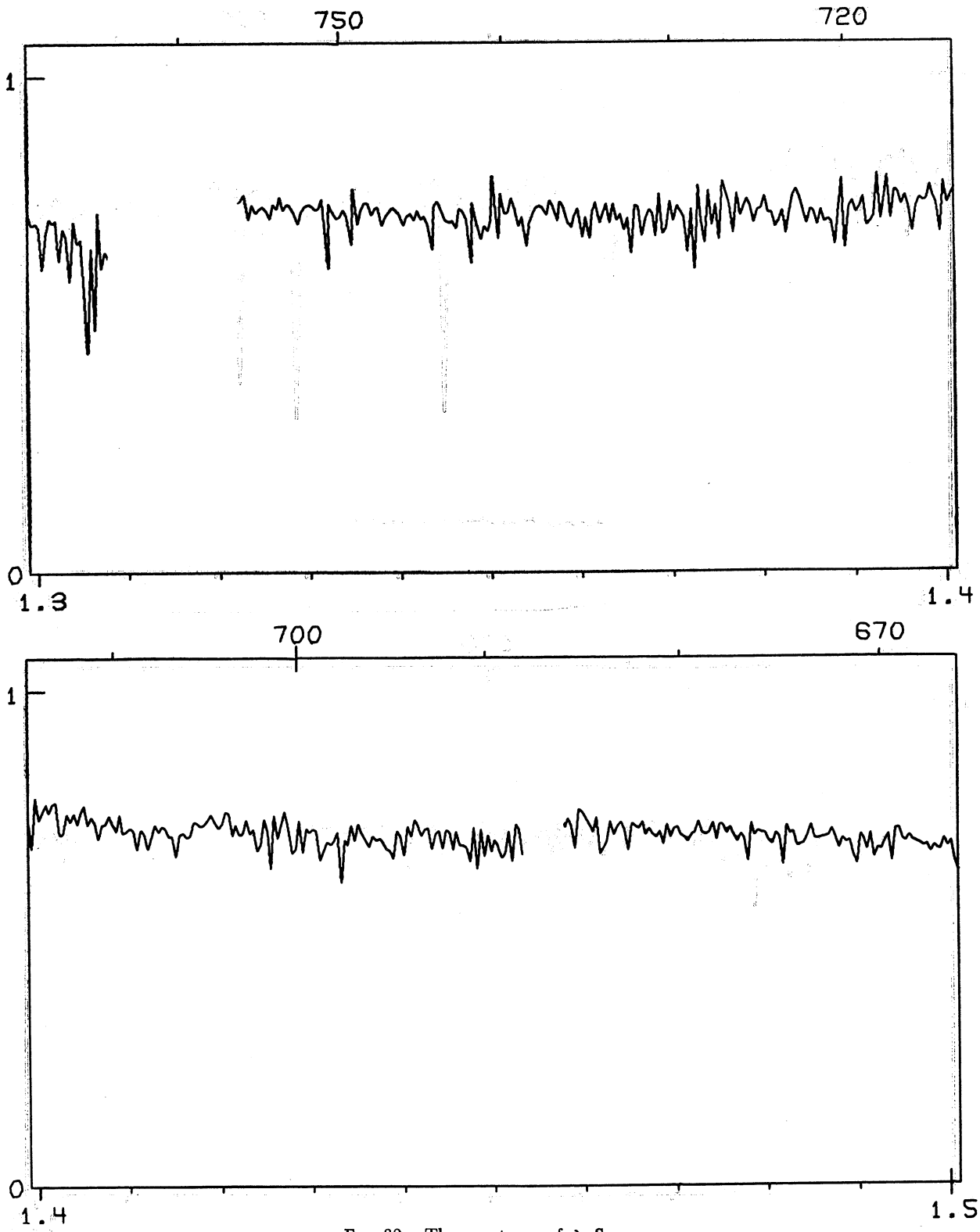


FIG. 32. The spectrum of λ Ser.

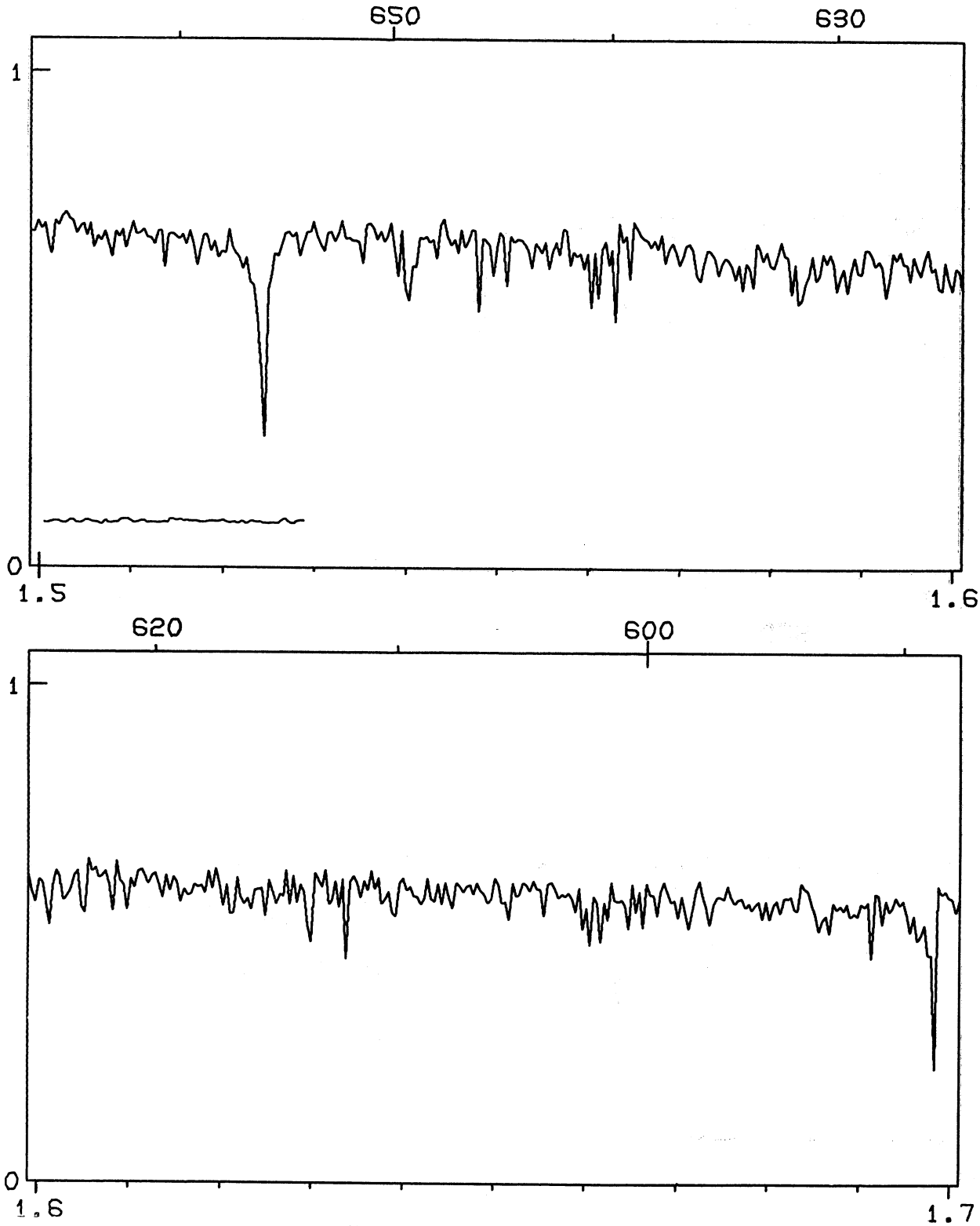


FIG. 32. The spectrum of λ Ser.

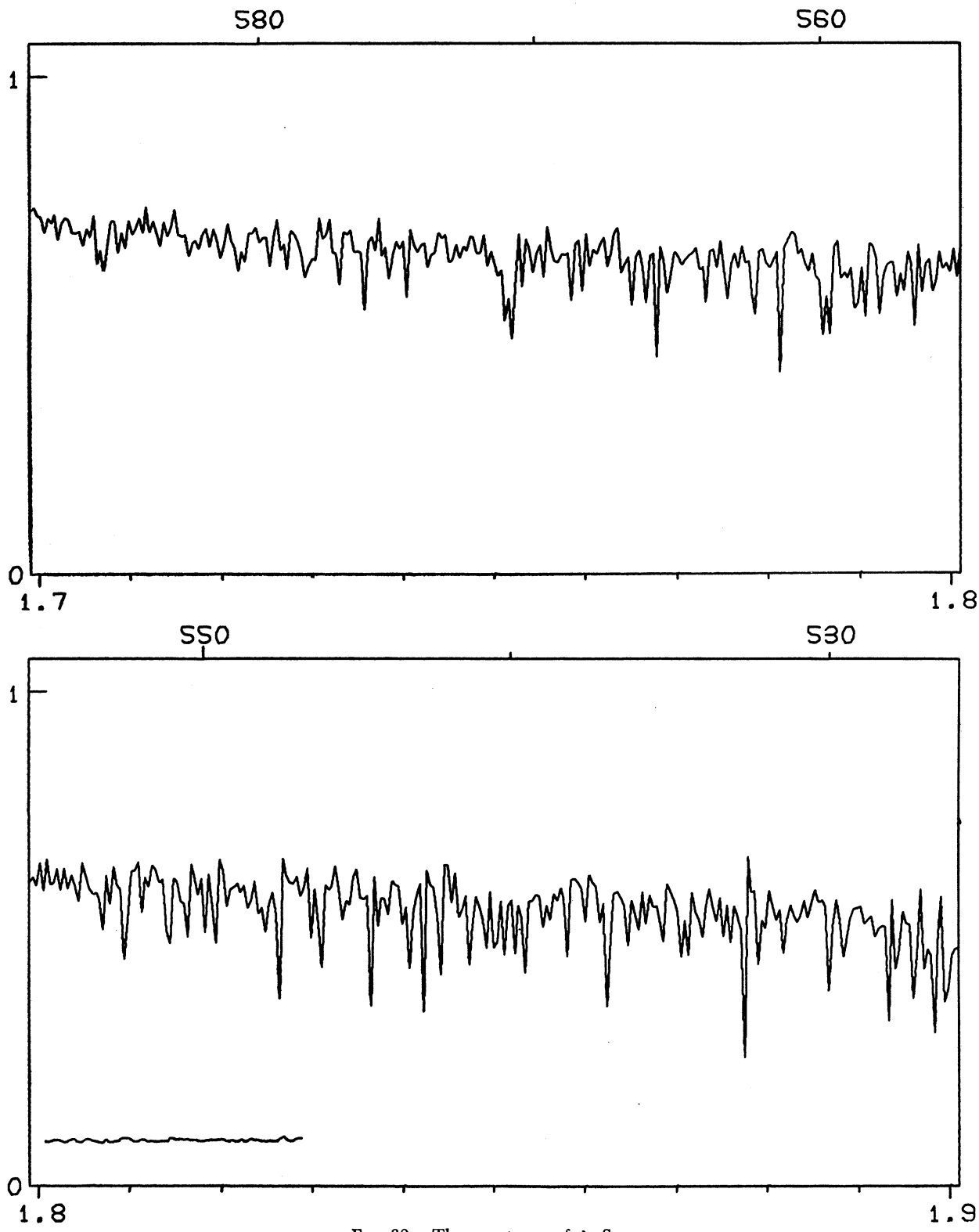


FIG. 32. The spectrum of λ Ser.

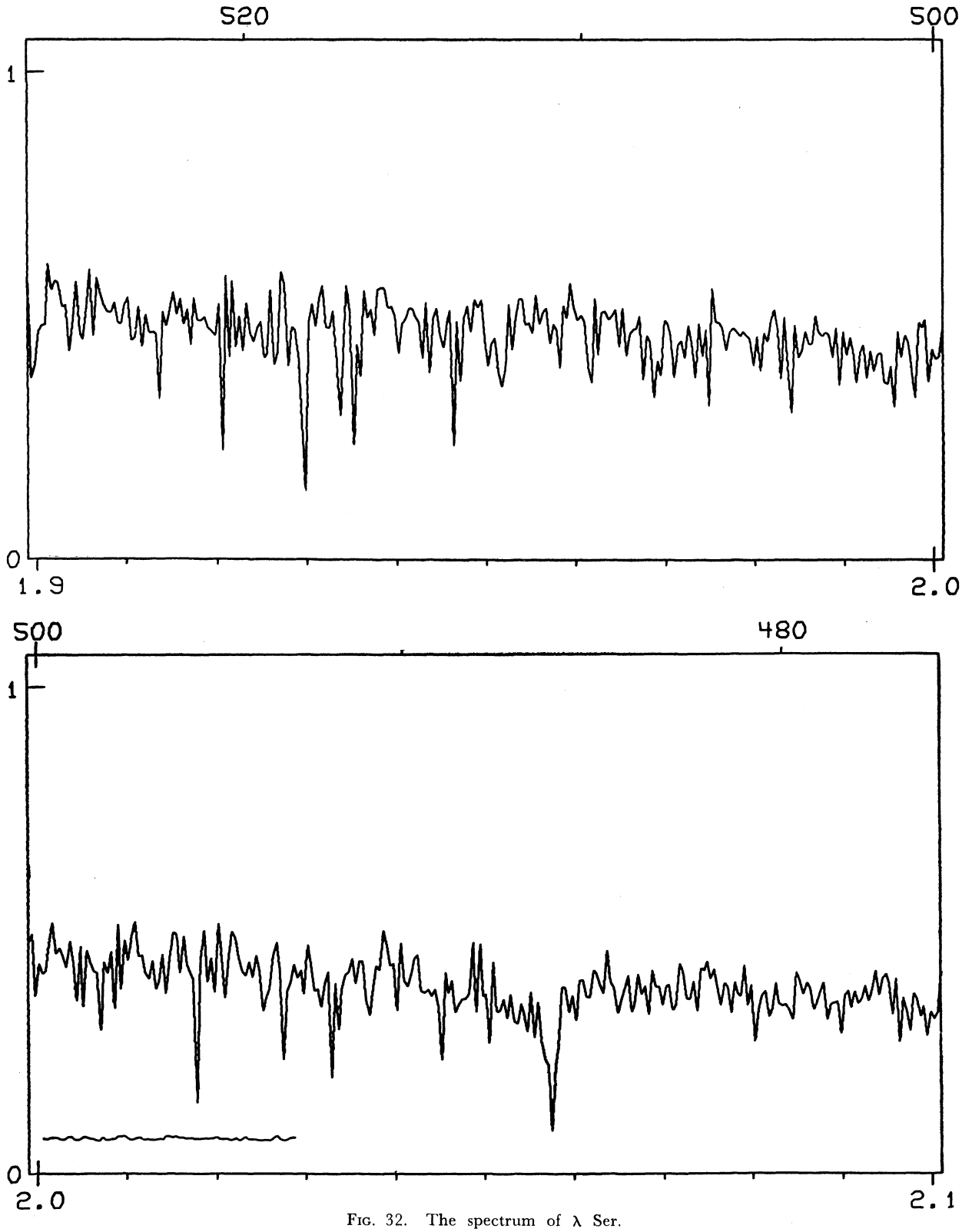


FIG. 32. The spectrum of λ Ser.

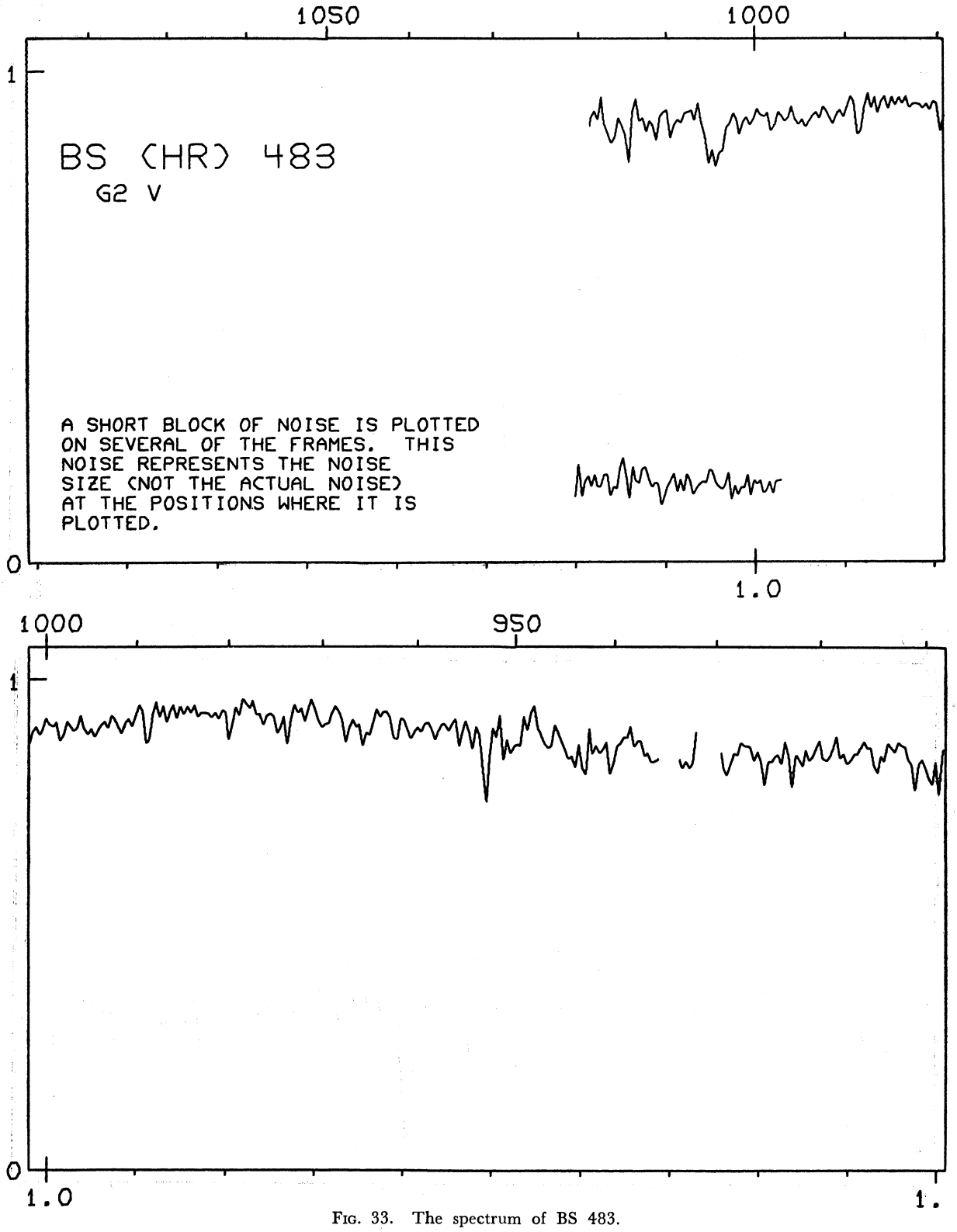


FIG. 33. The spectrum of BS 483.

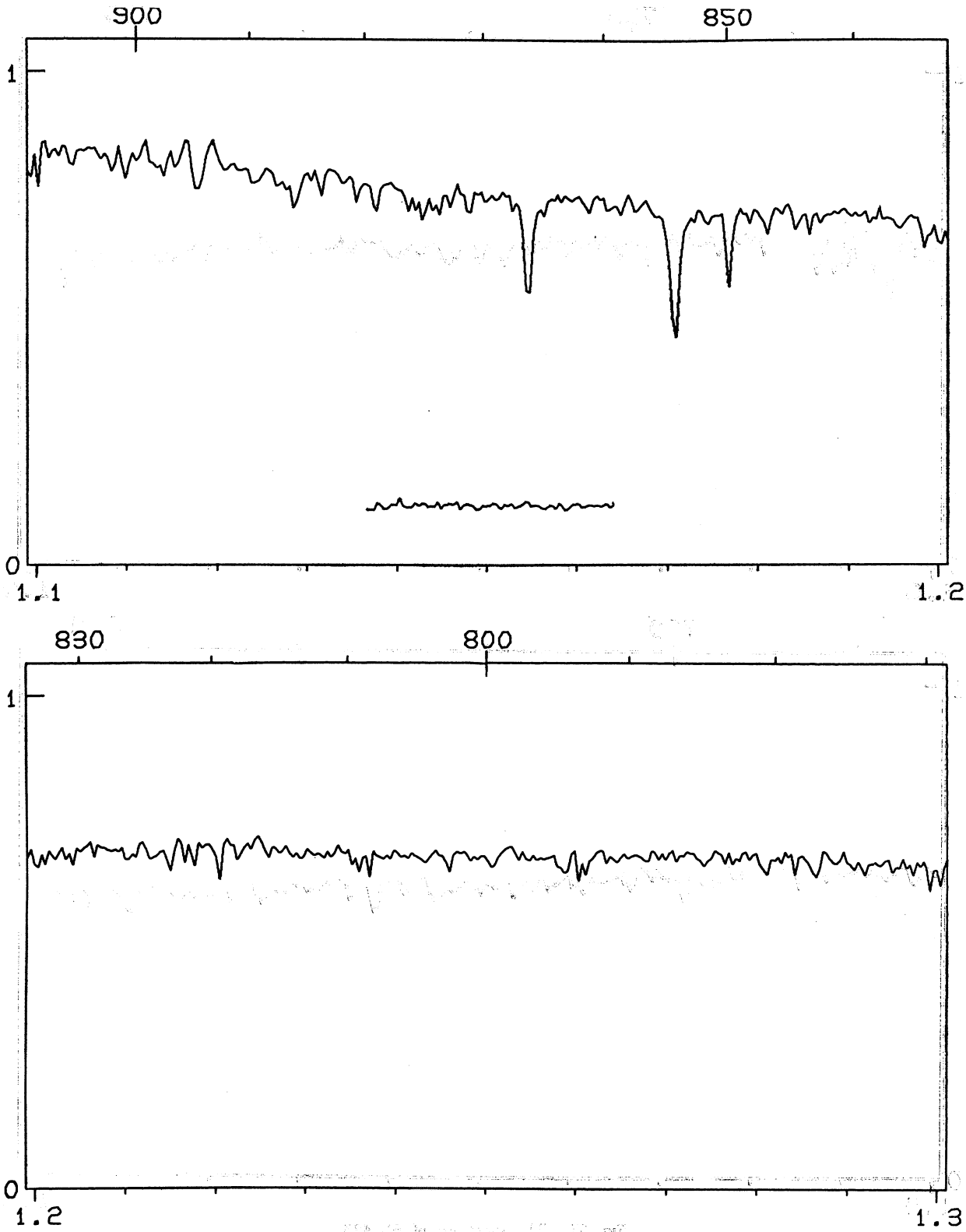


FIG. 33. The spectrum of BS 483.

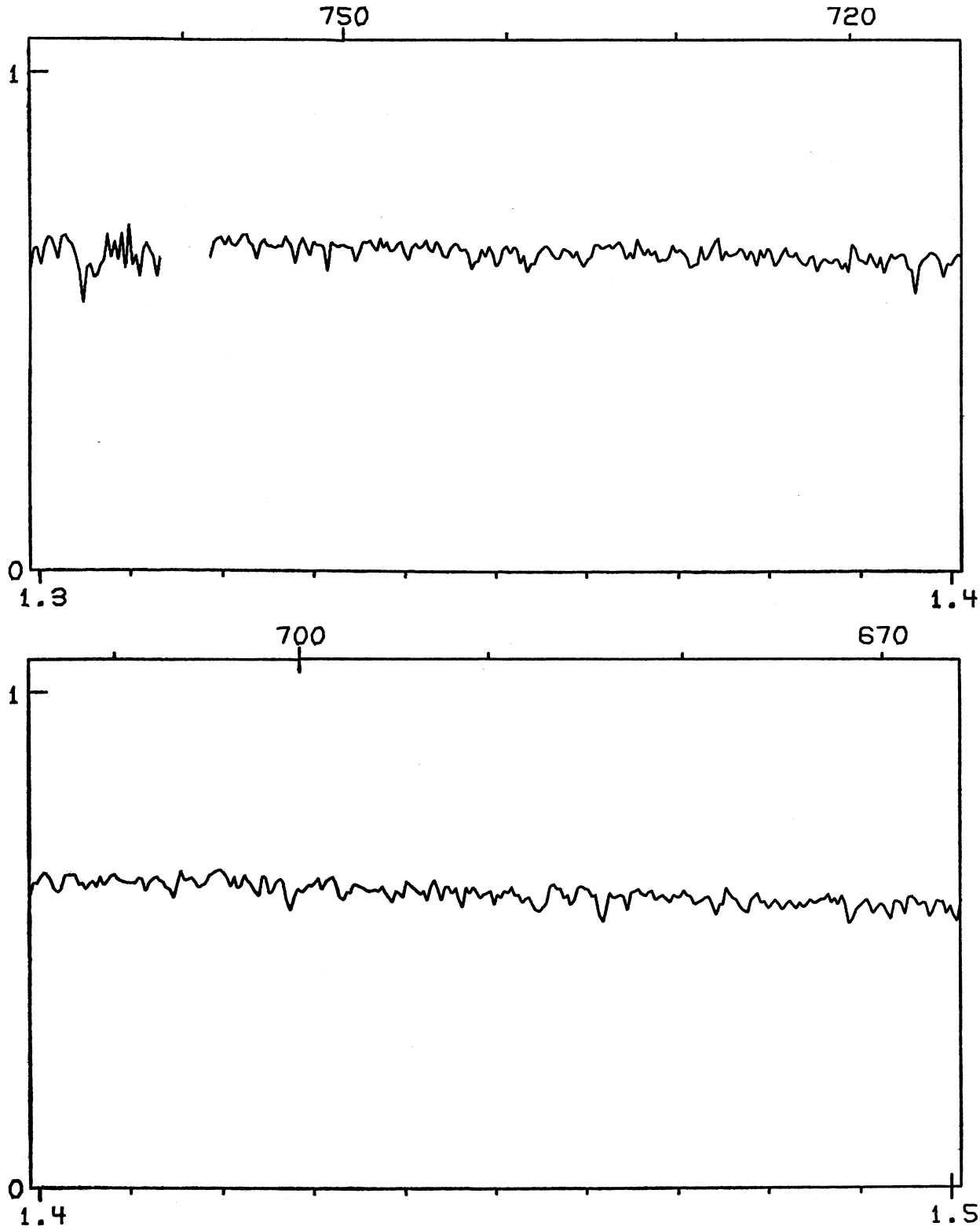


FIG. 33. The spectrum of BS 483.

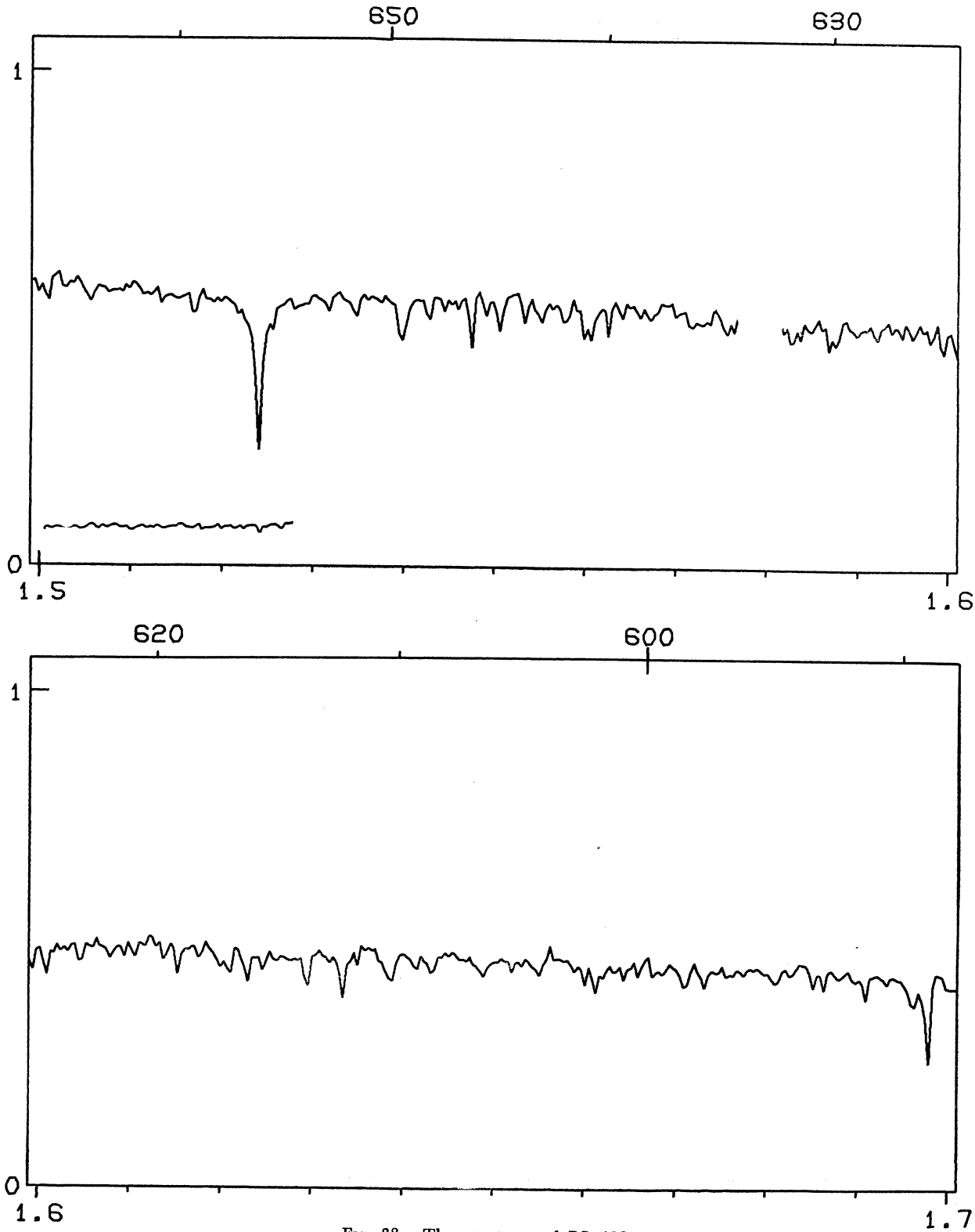


FIG. 33. The spectrum of BS 483.

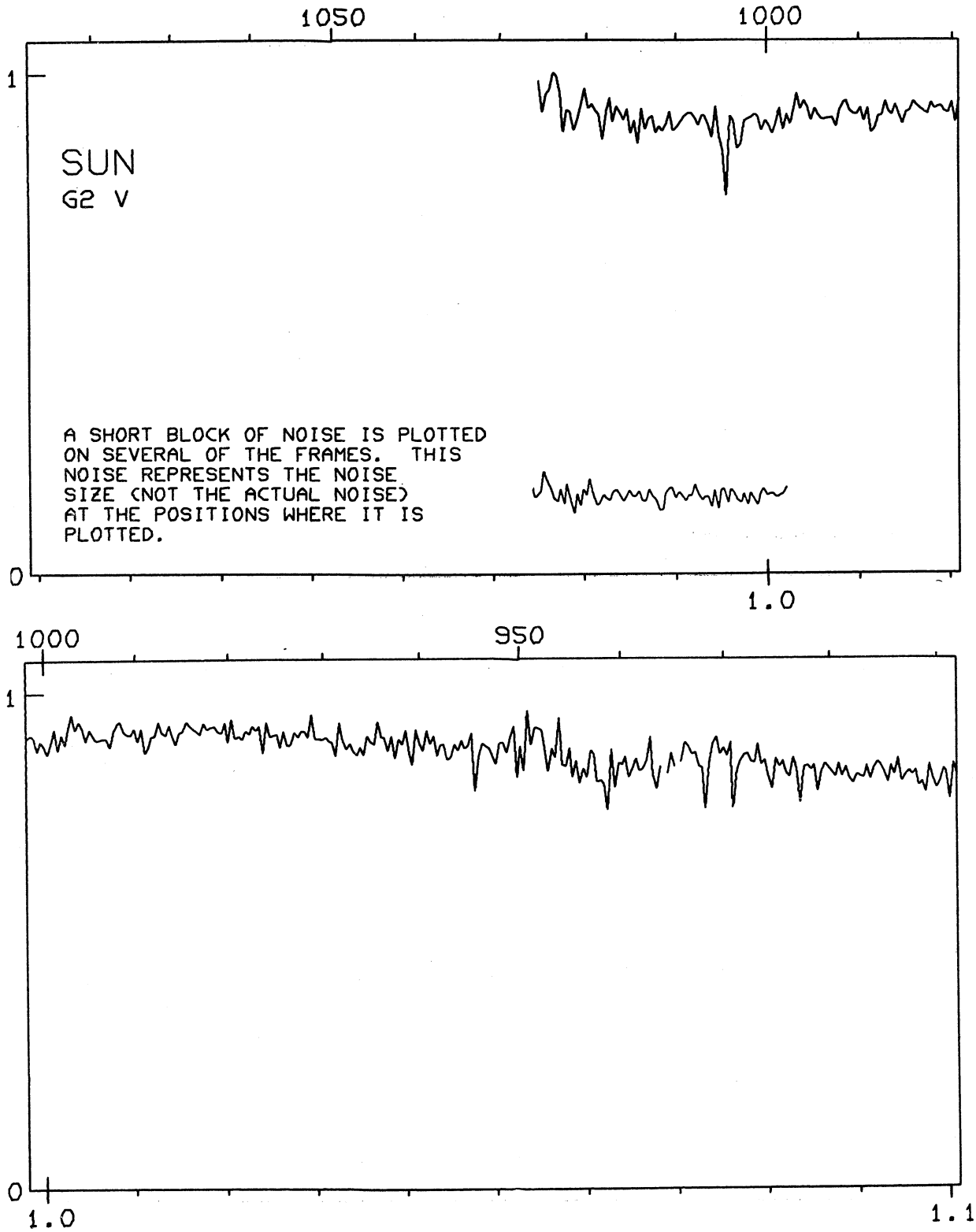


FIG. 34. The spectrum of the Sun, as reflected by the Moon and a satellite of Jupiter.

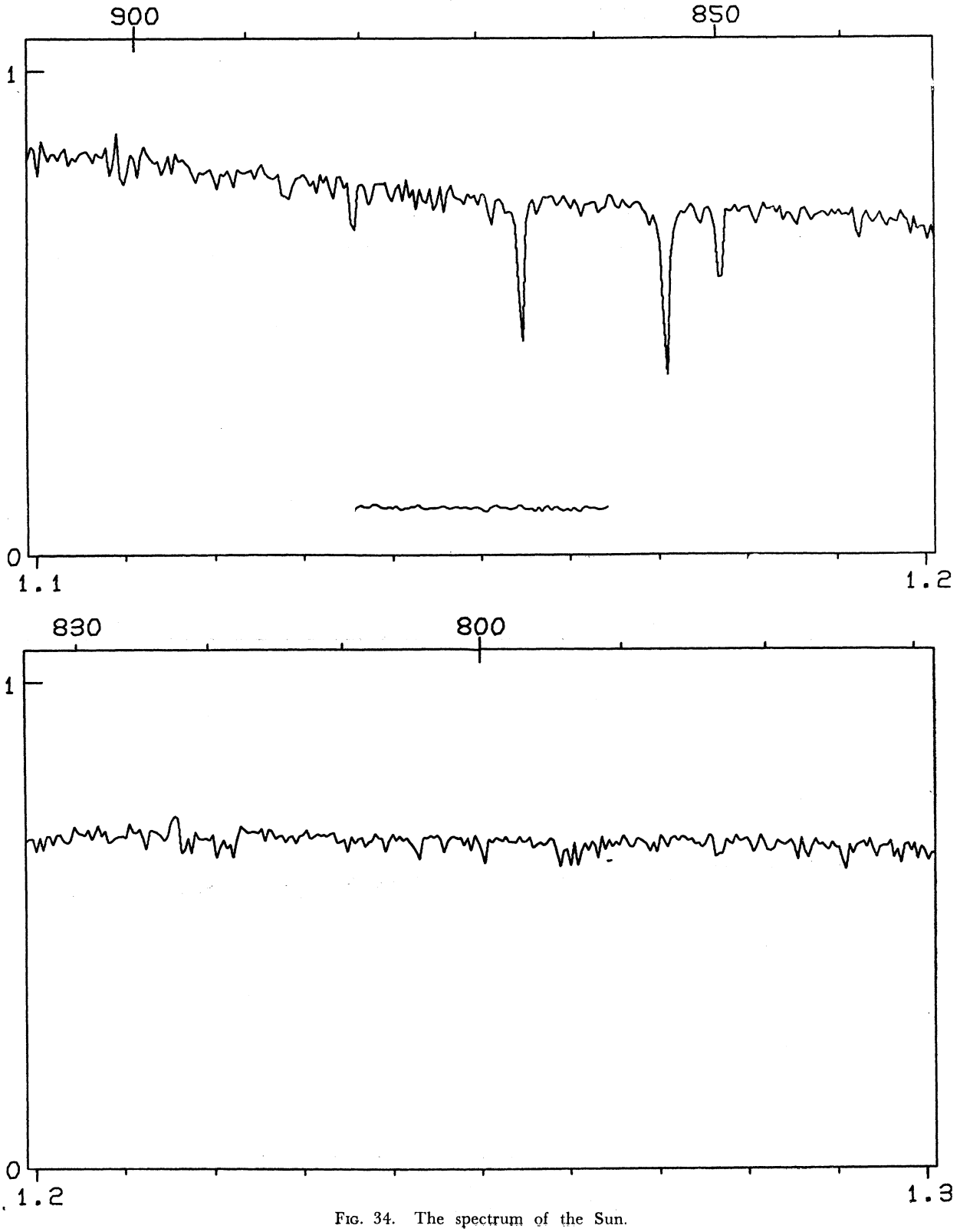


FIG. 34. The spectrum of the Sun.

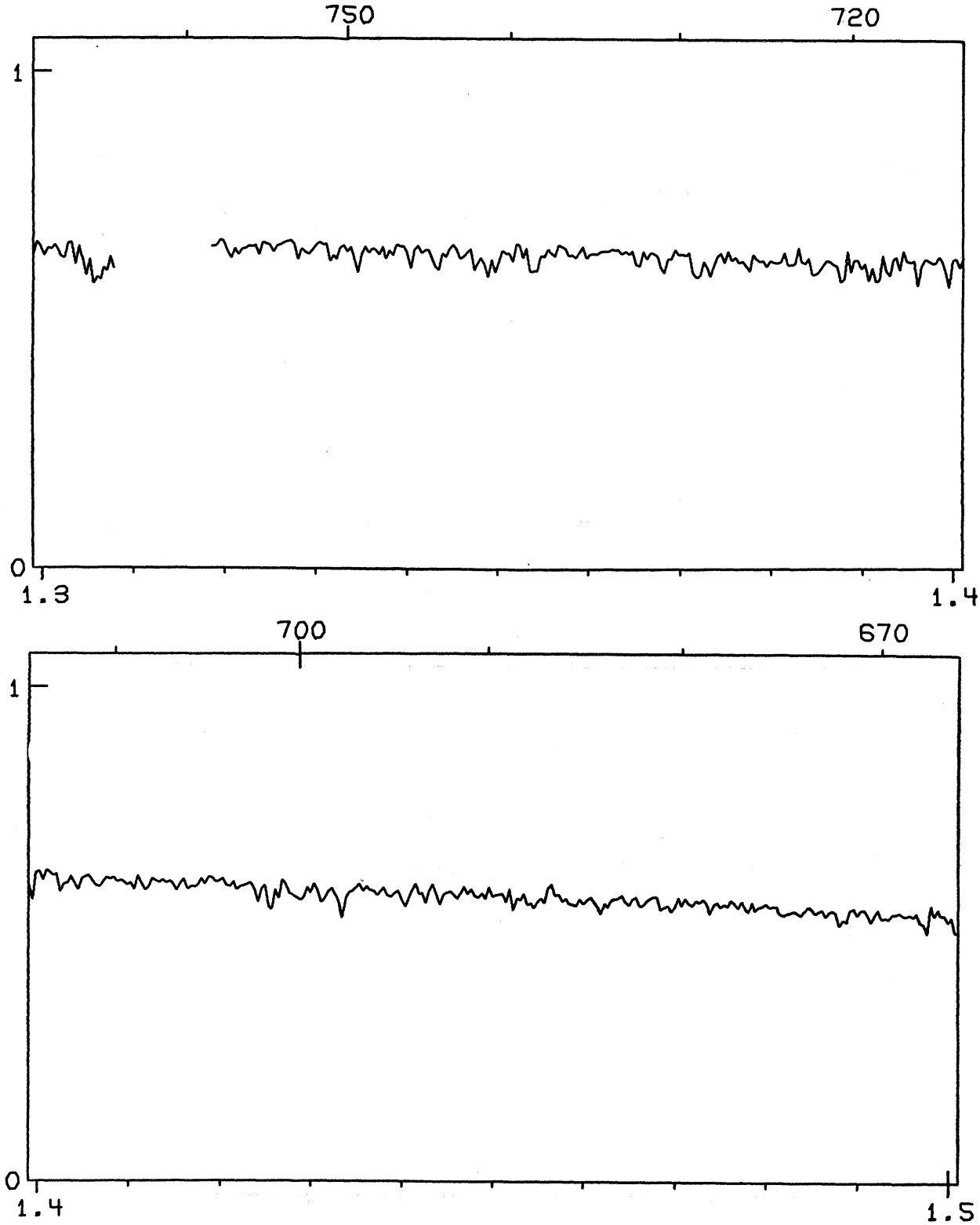


FIG. 34. The spectrum of the Sun.

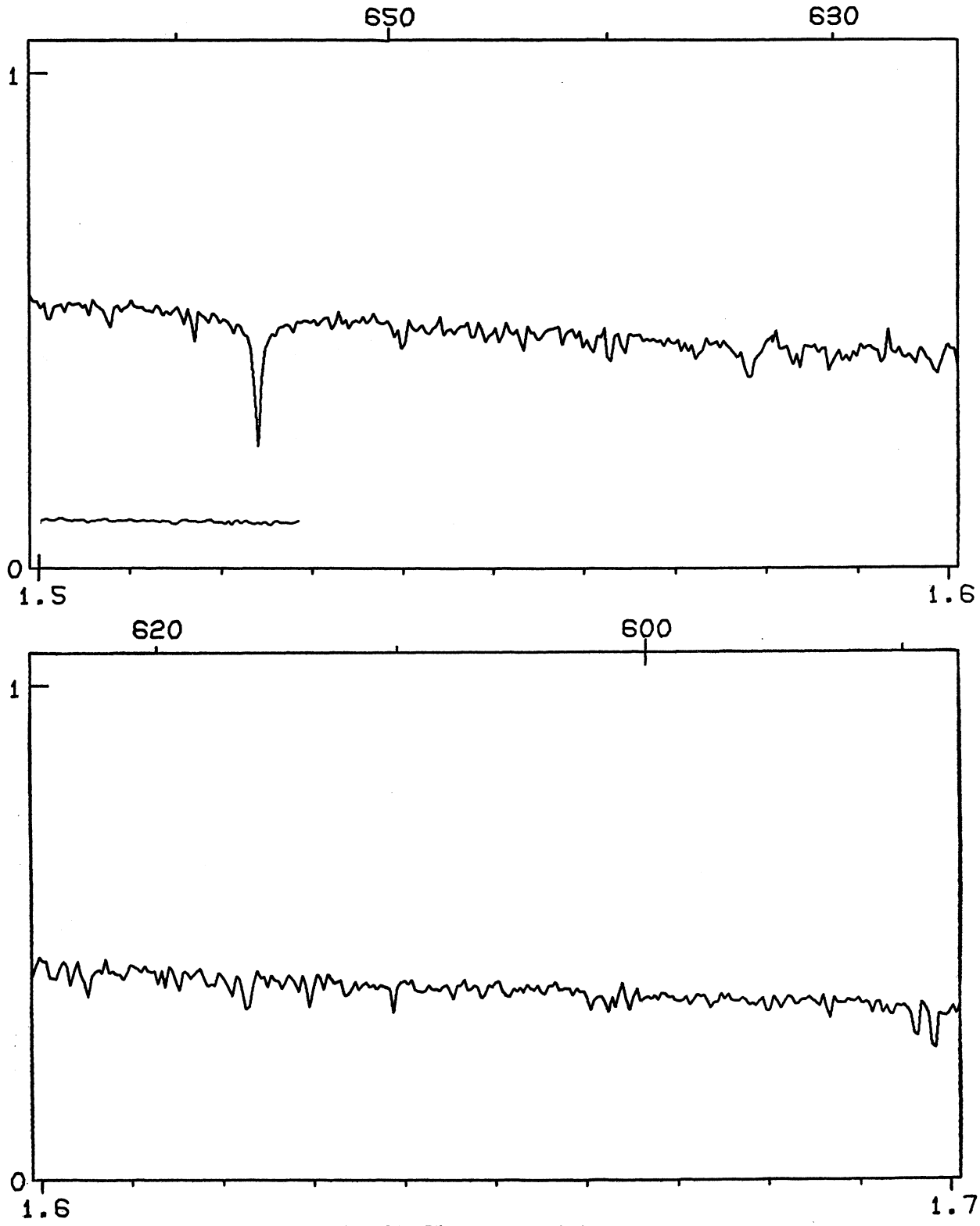


FIG. 34. The spectrum of the Sun.

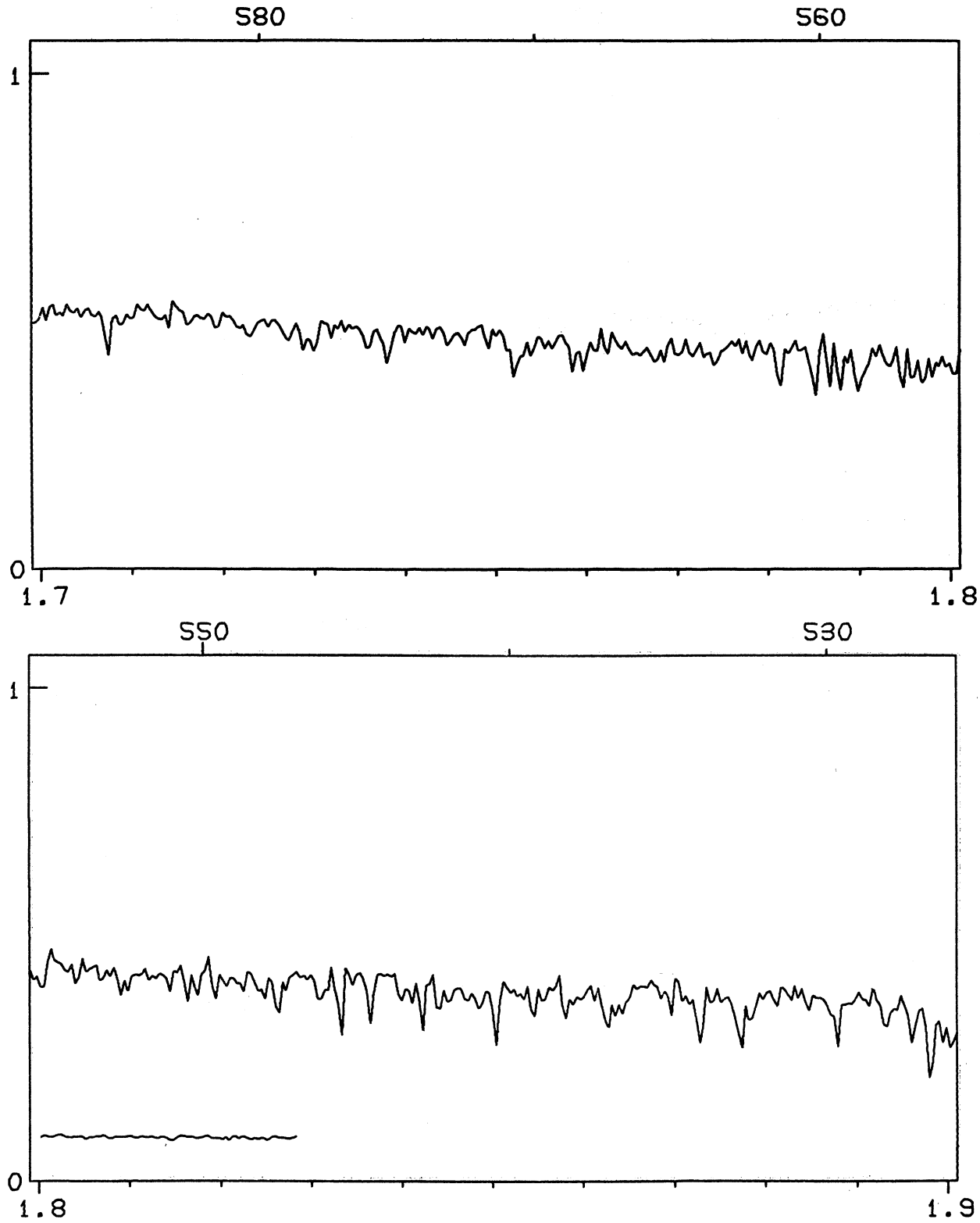


FIG. 34. The spectrum of the Sun.

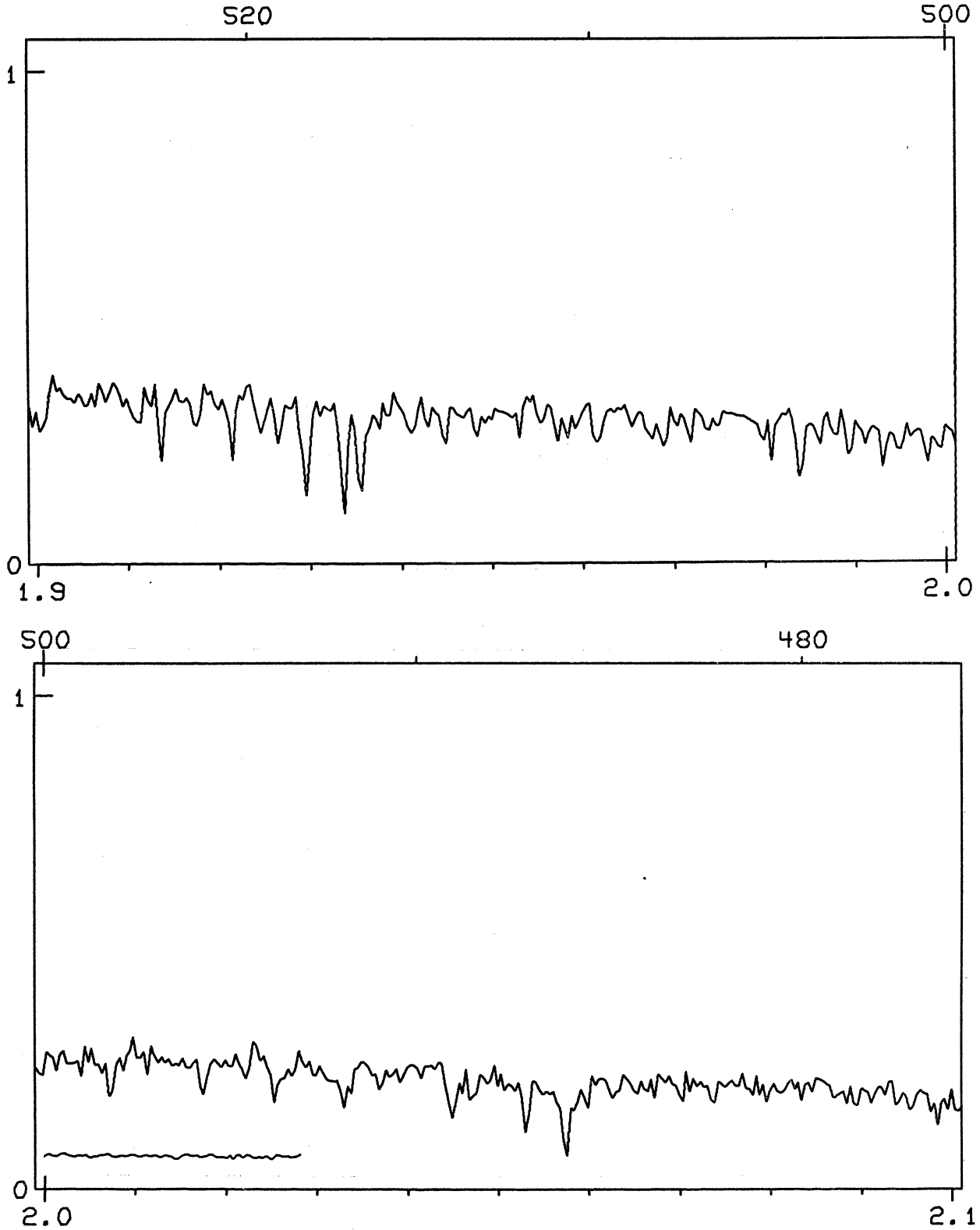


FIG. 34. The spectrum of the Sun.

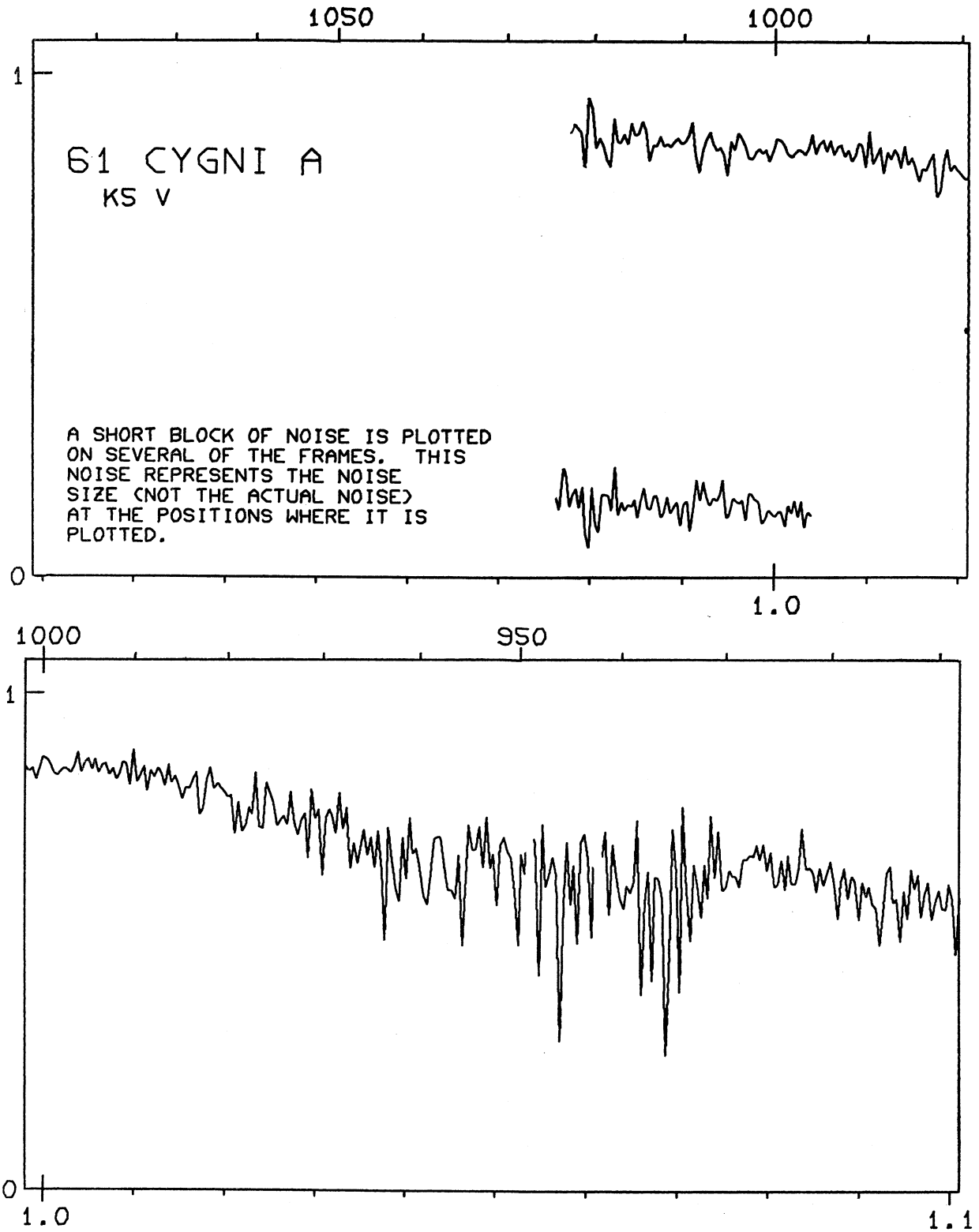


FIG. 35. The spectrum of 61 Cyg A.

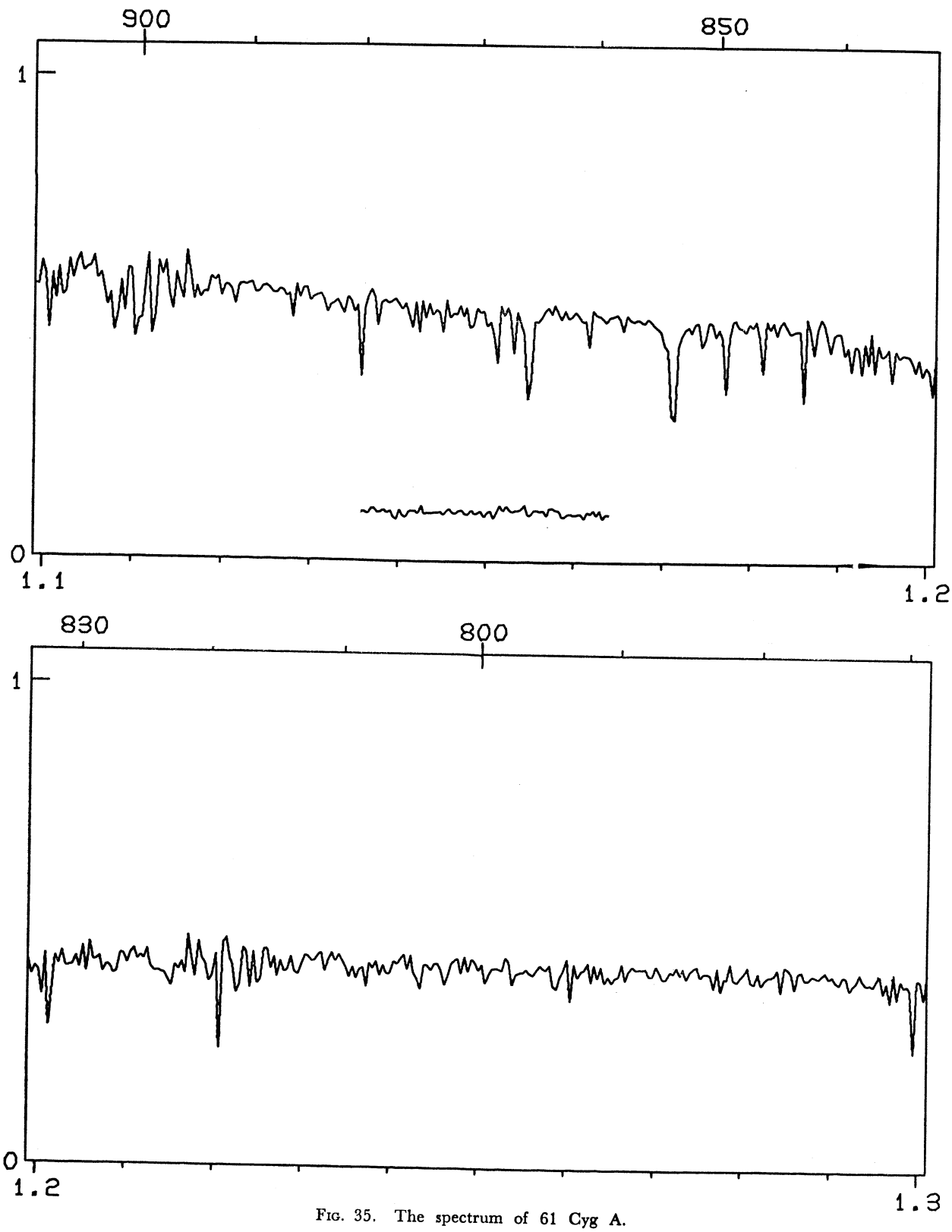


FIG. 35. The spectrum of 61 Cyg A.

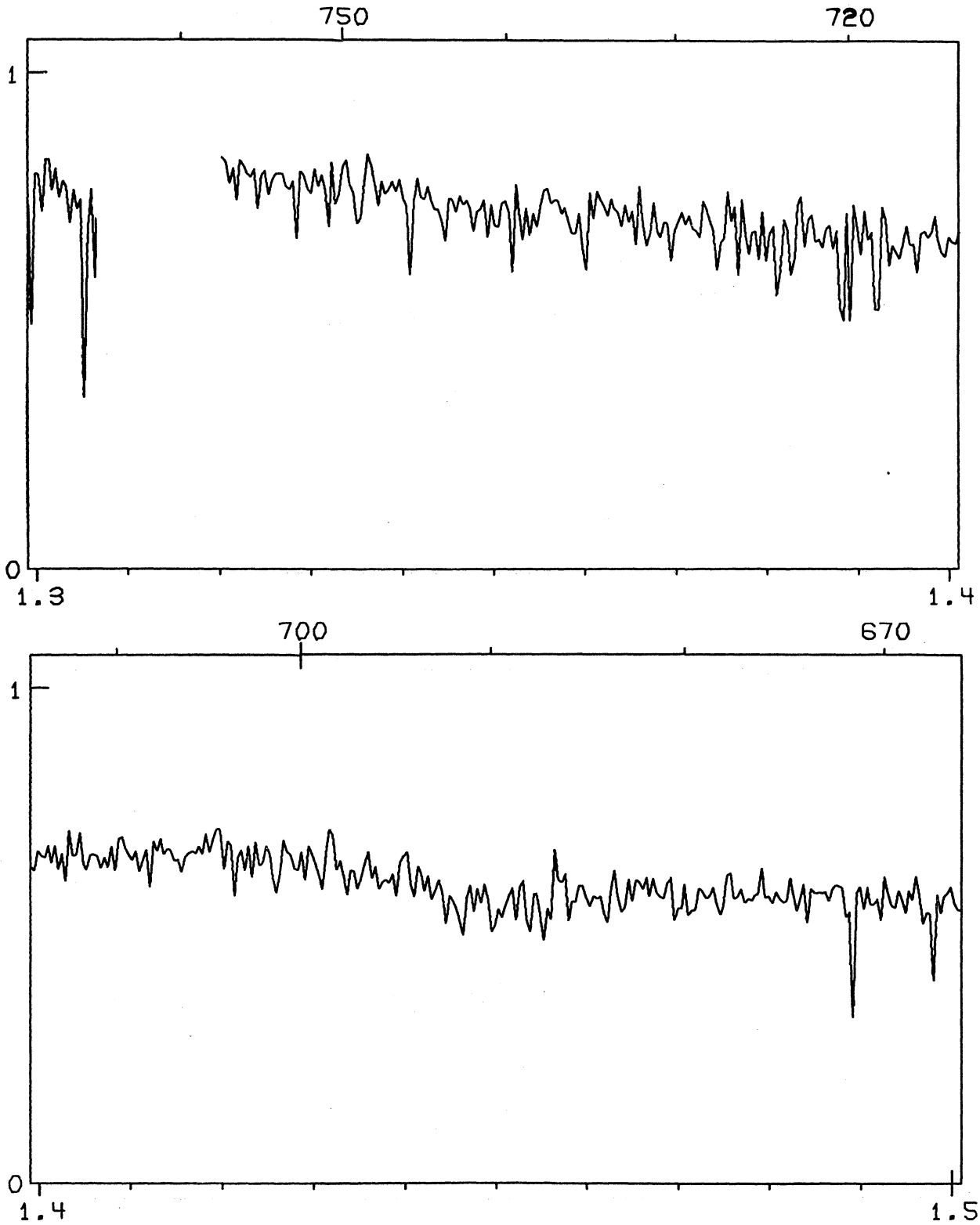


FIG. 35. The spectrum of 61 Cyg A.

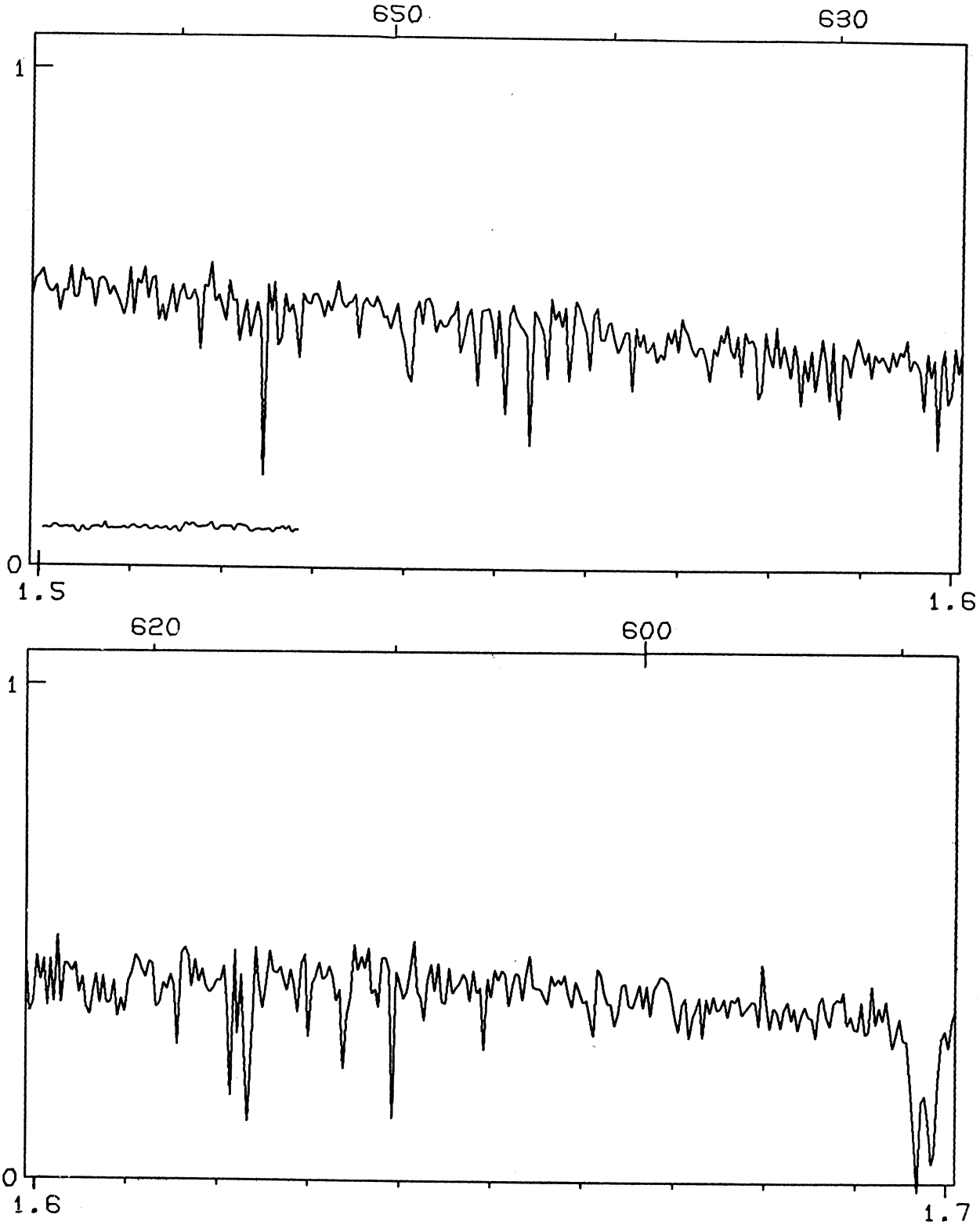


FIG. 35. The spectrum of 61 Cyg A.

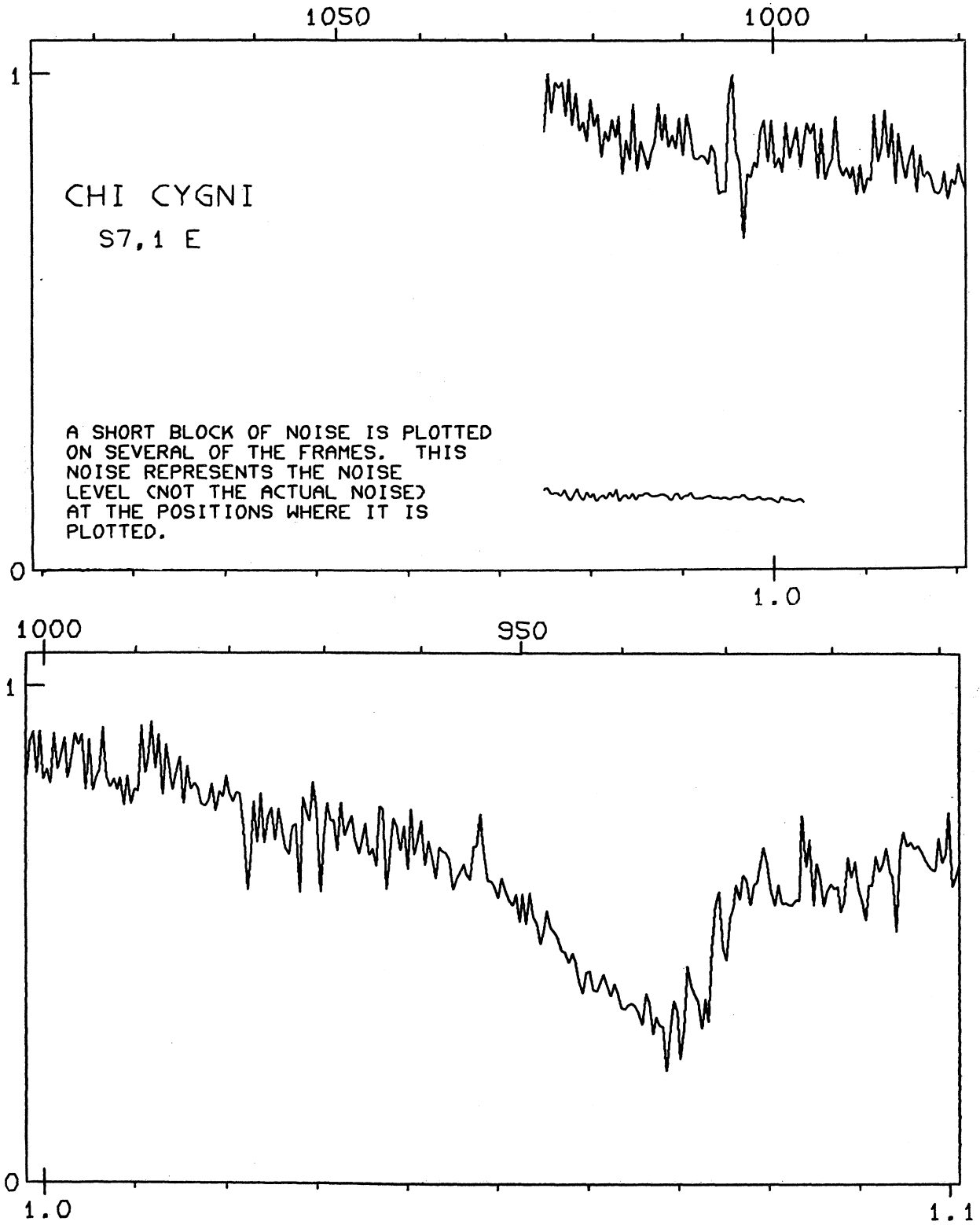
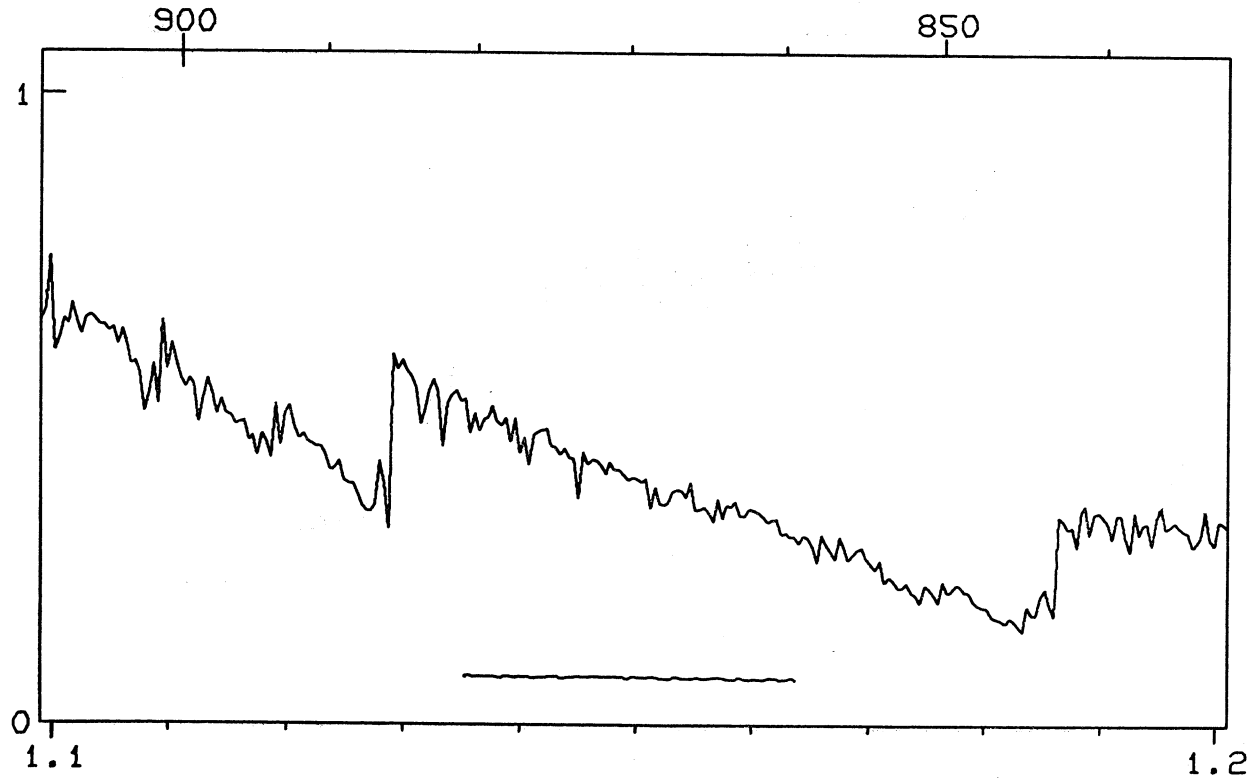


FIG. 36. The spectrum of χ Cyg.



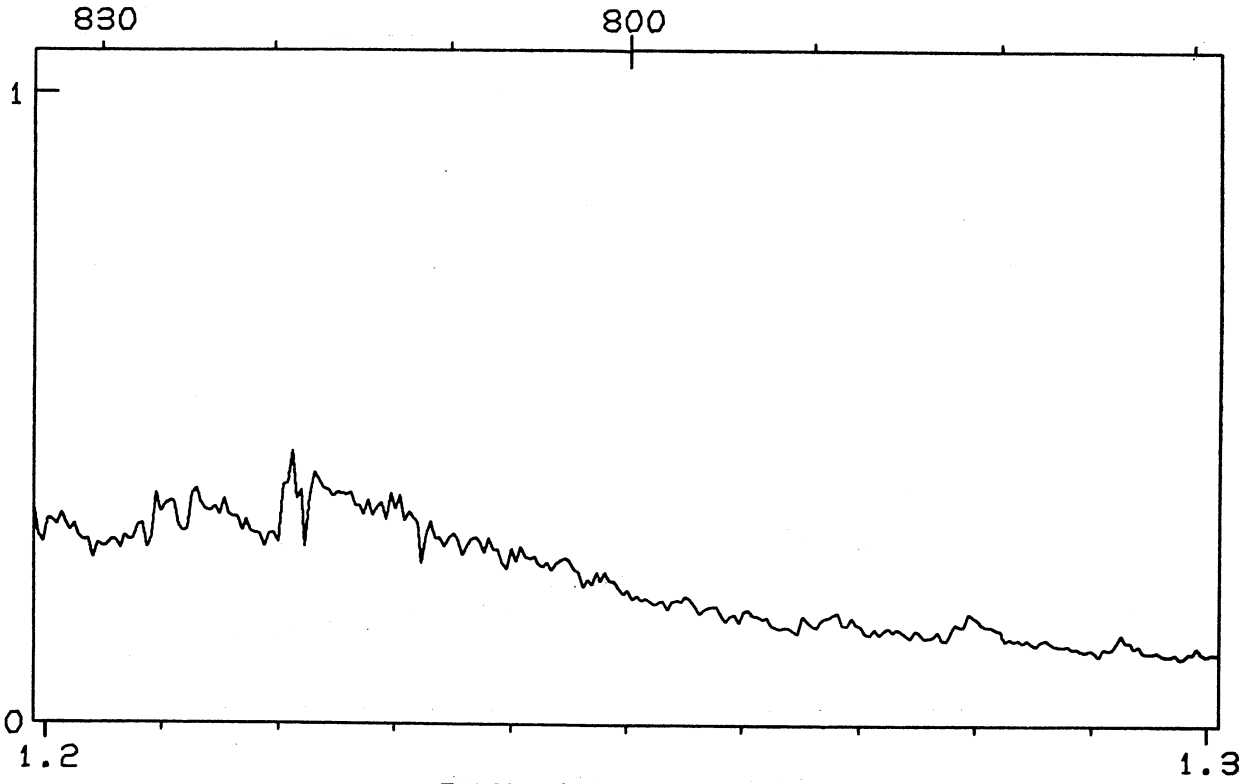


FIG. 36. The spectrum of χ Cyg.

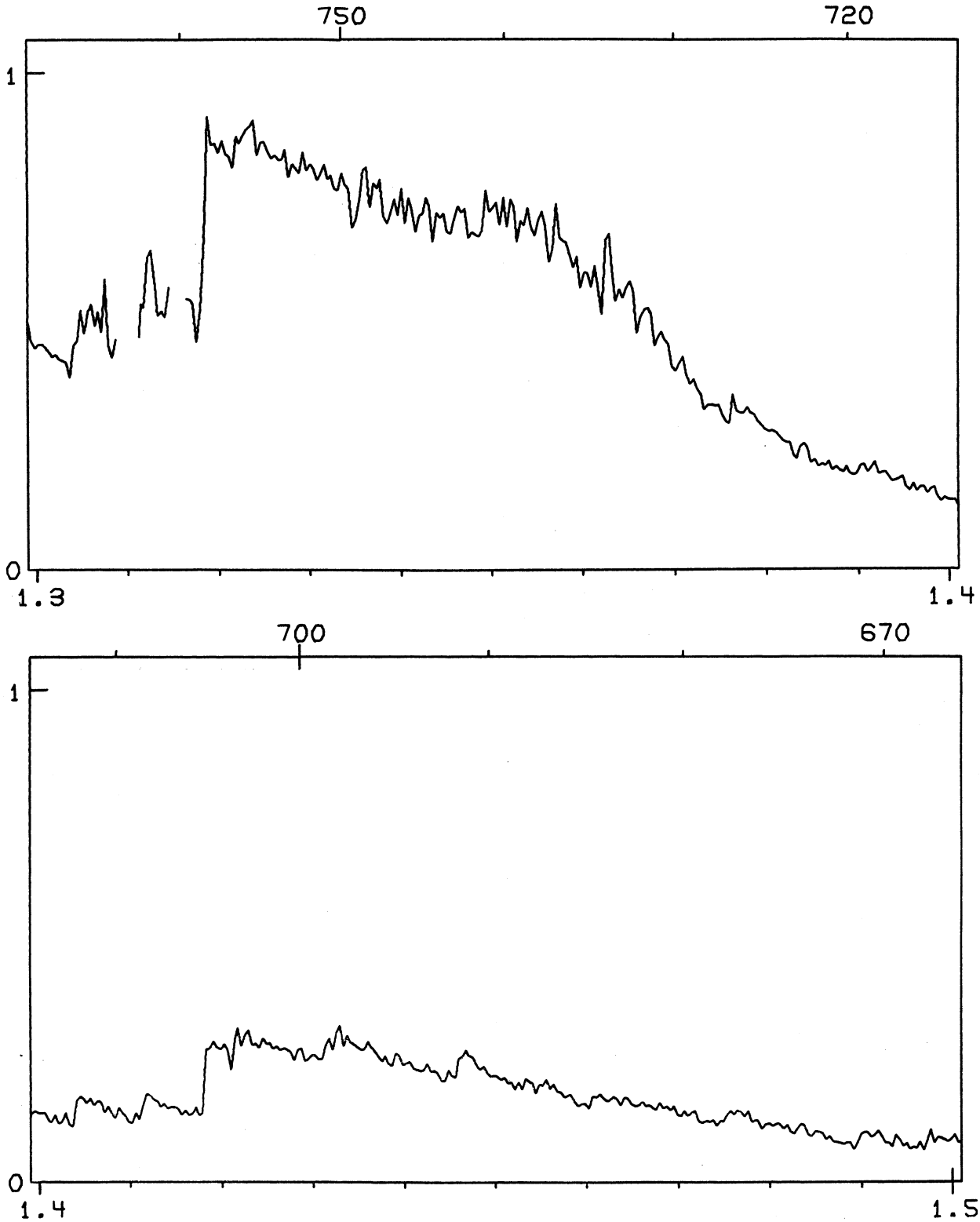


FIG. 36. The spectrum of χ Cyg.

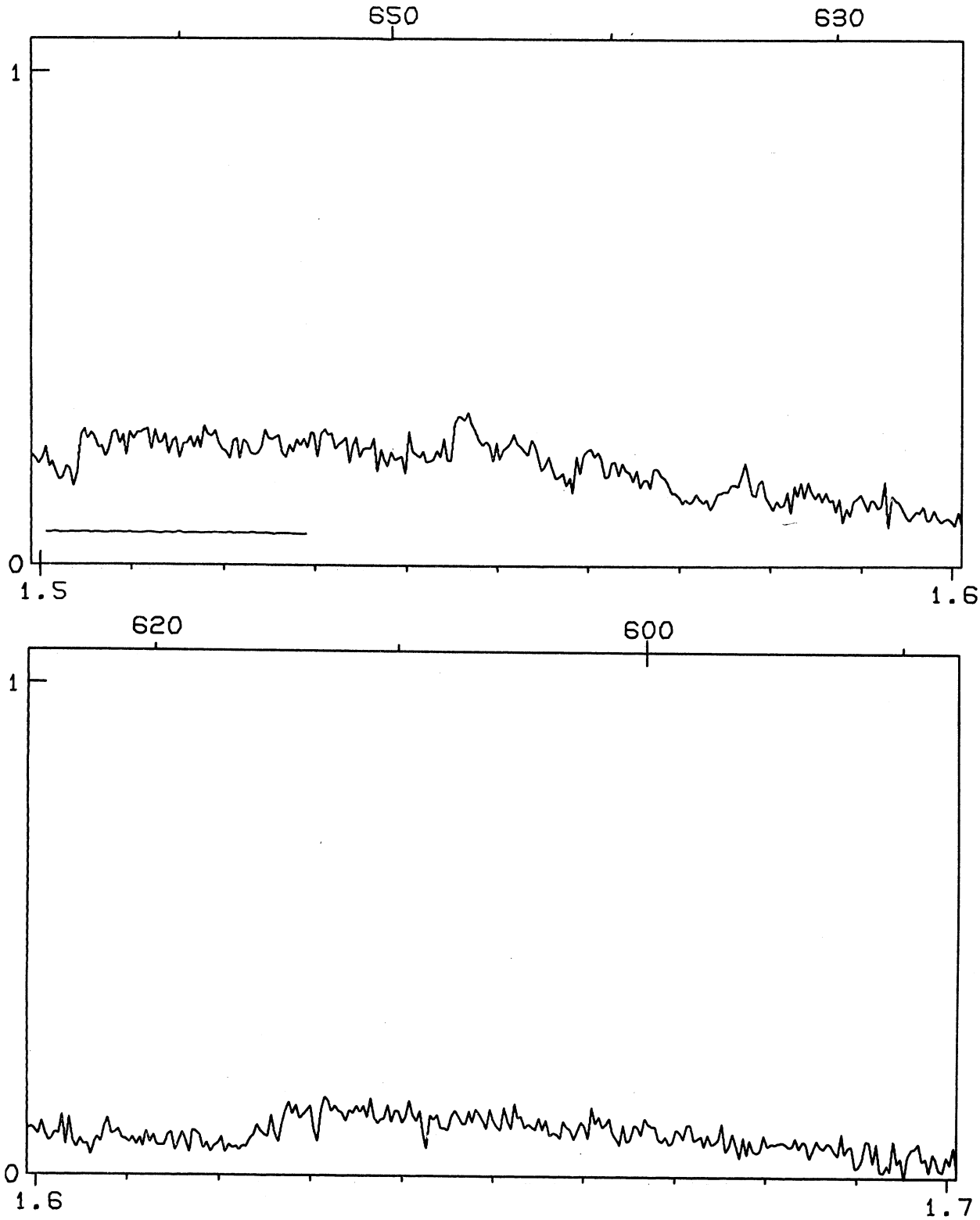


FIG. 36. The spectrum of χ Cyg.

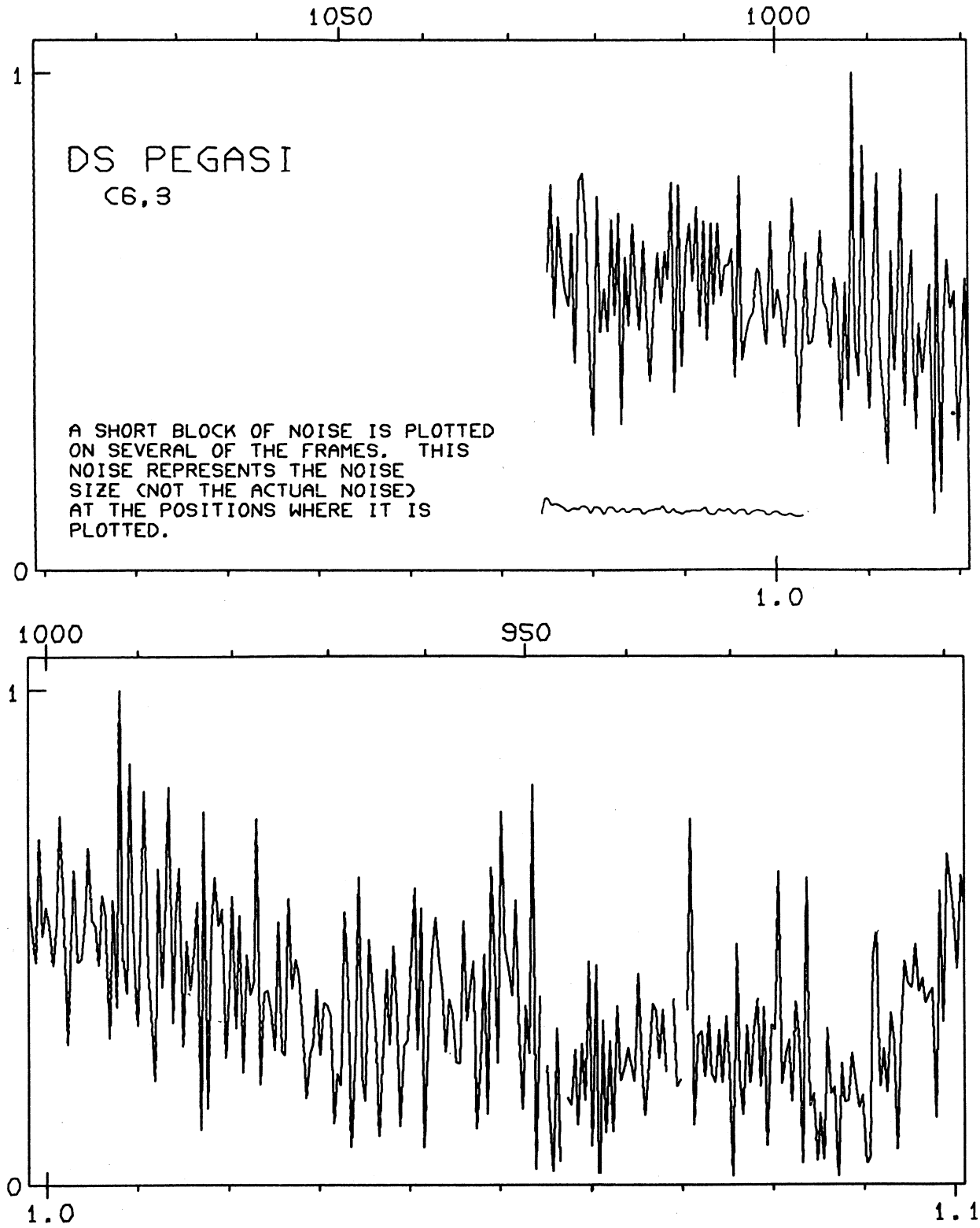


FIG. 37. The spectrum of DS Peg.

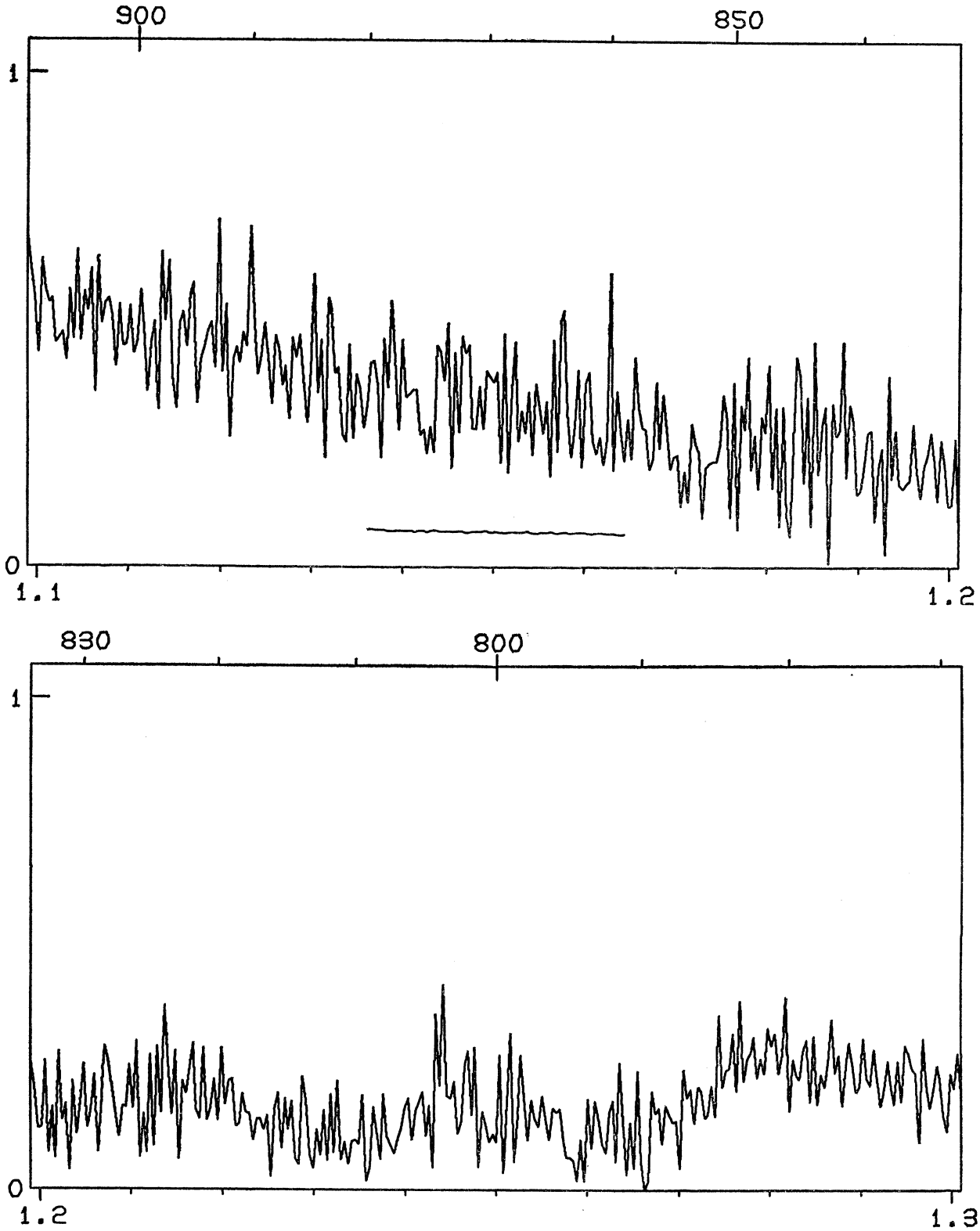


FIG. 37. The spectrum of DS Peg.

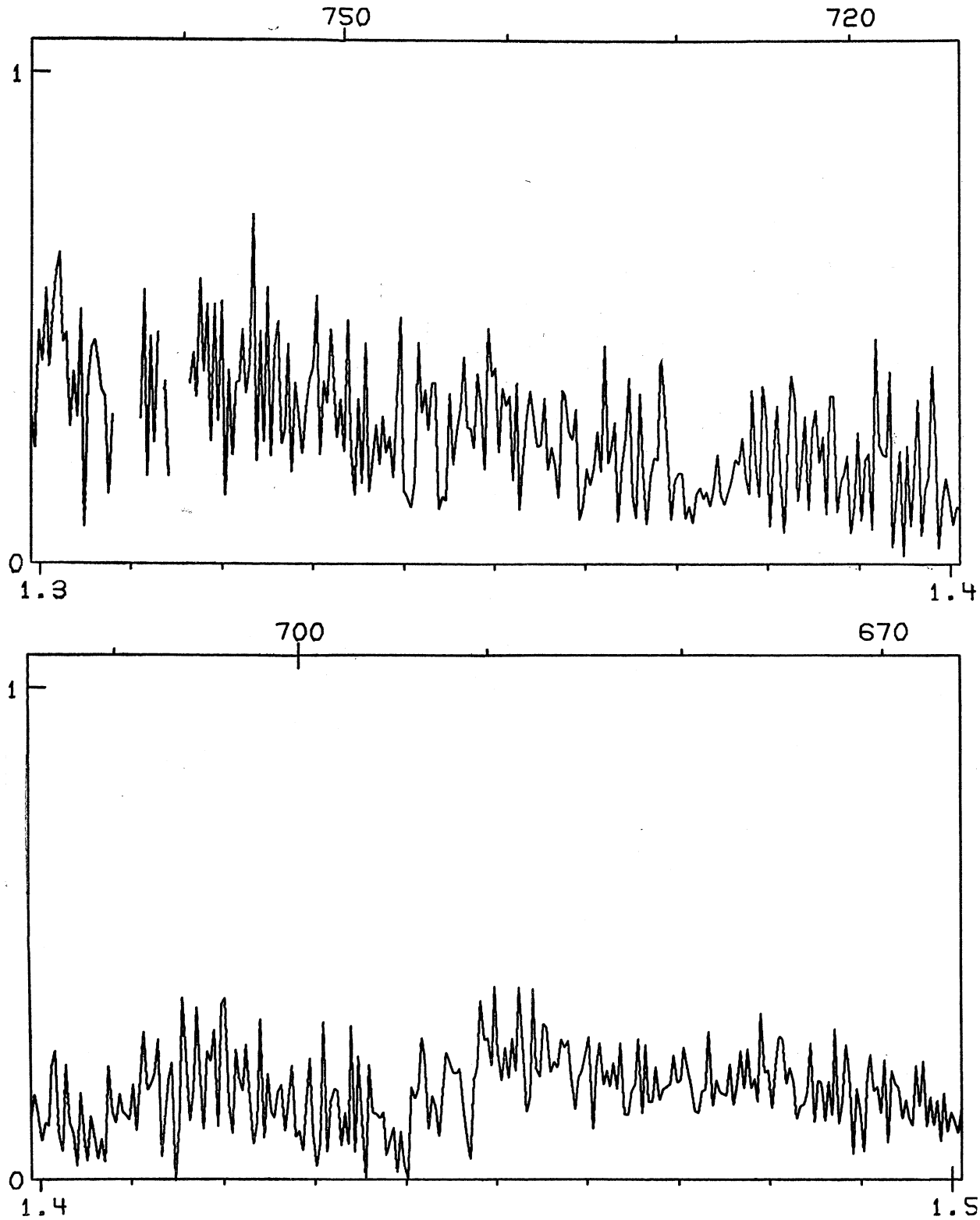


FIG. 37. The spectrum of DS Peg.

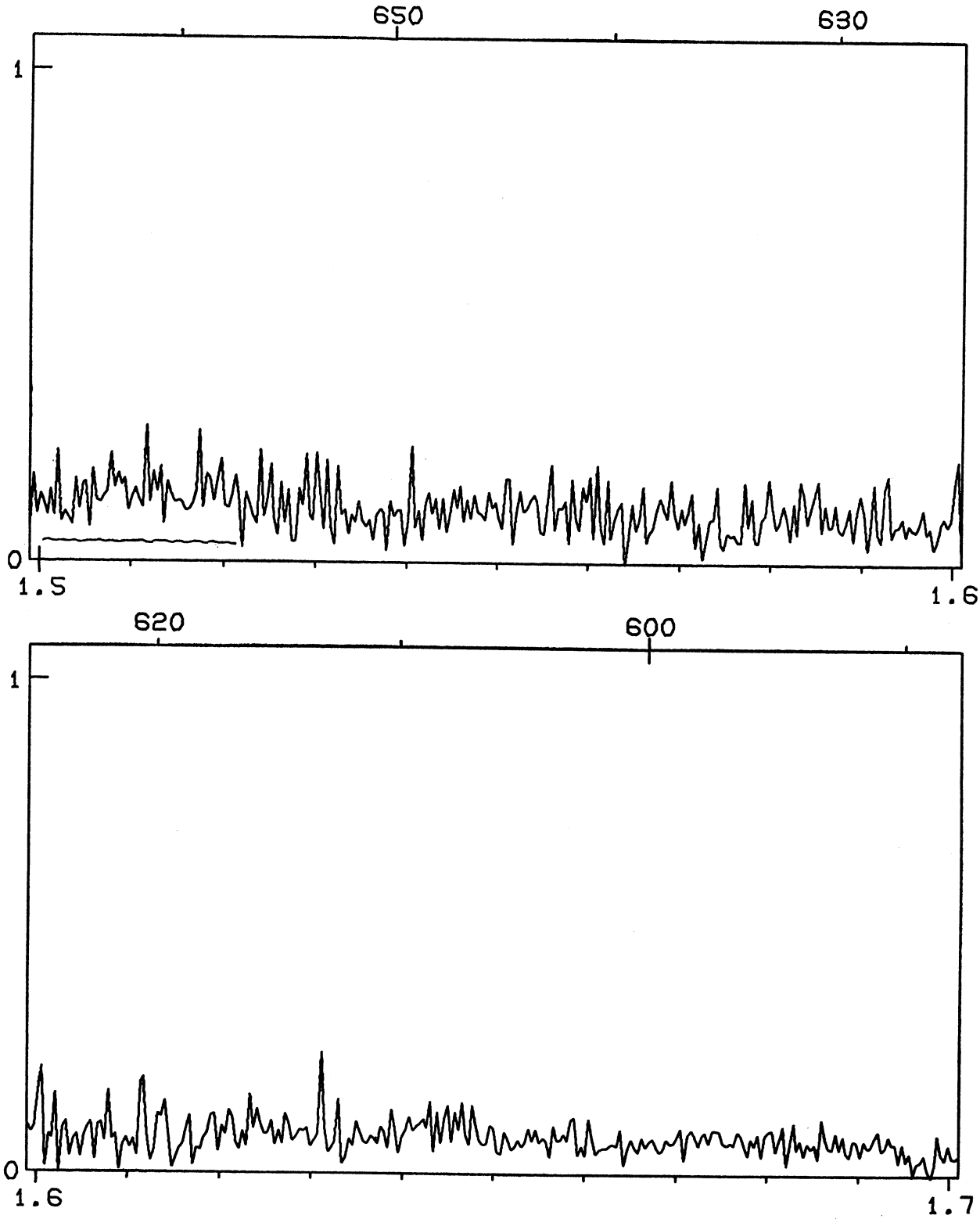


FIG. 37. The spectrum of DS Peg.

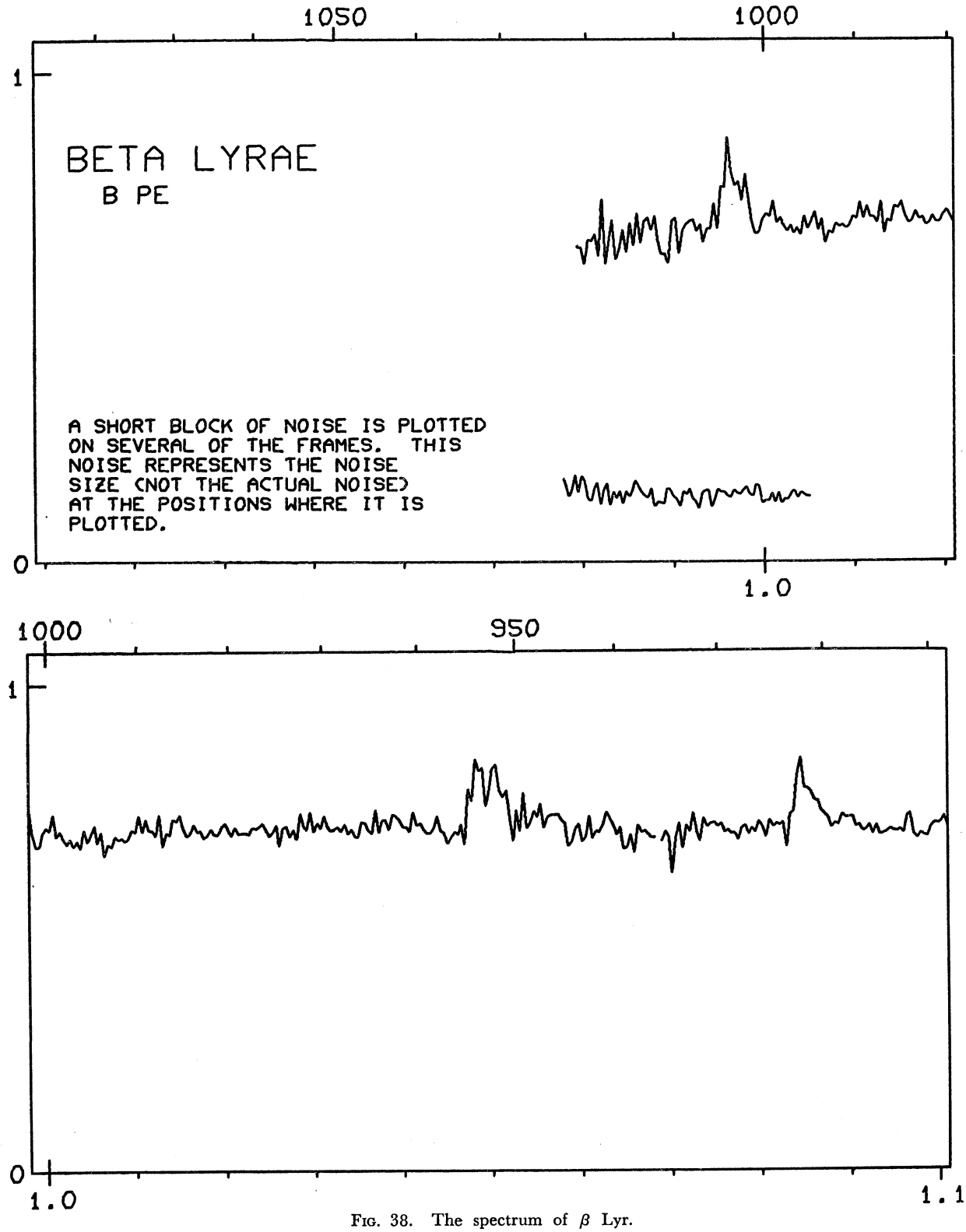


FIG. 38. The spectrum of β Lyr.

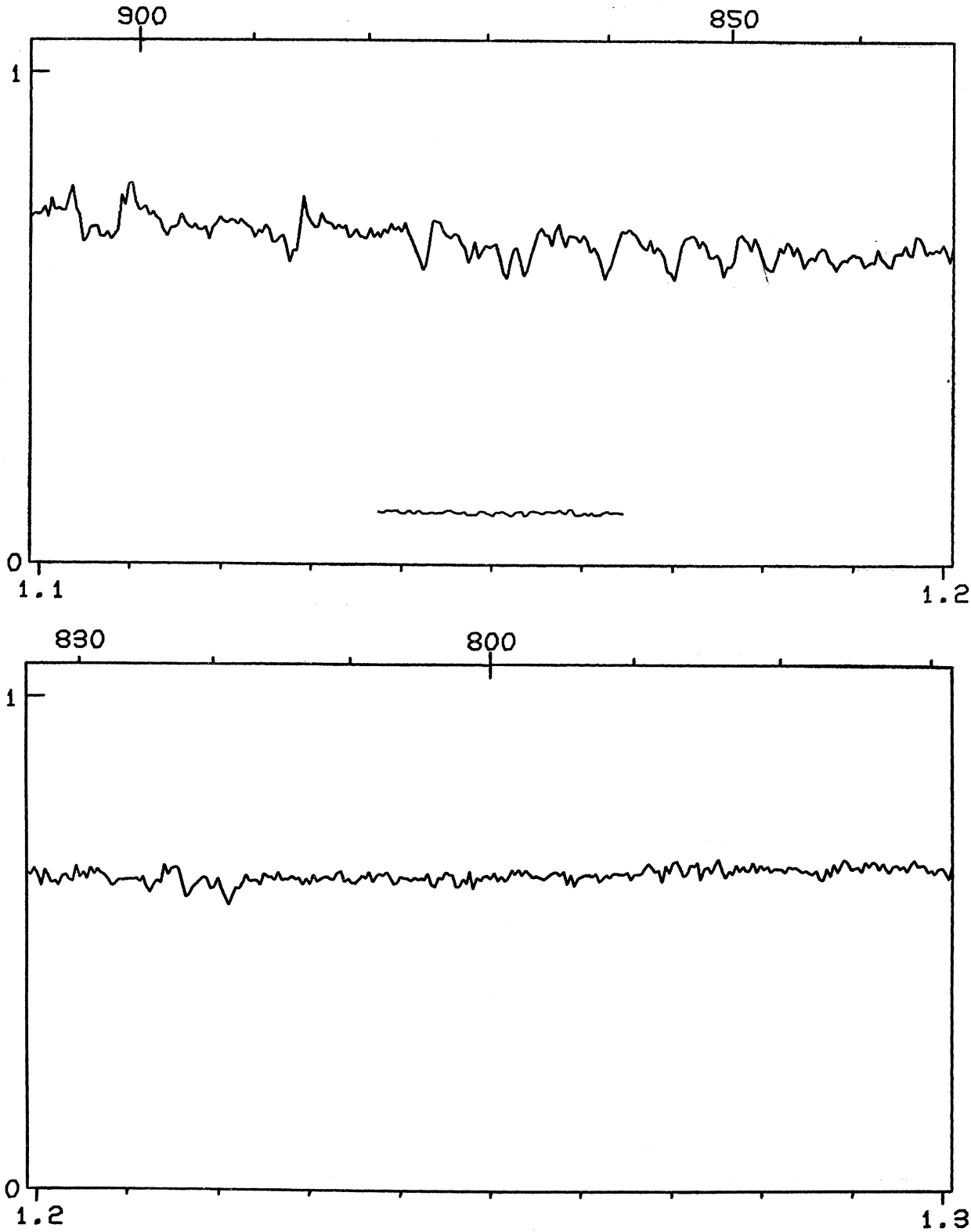


FIG. 38. The spectrum of β Lyr.

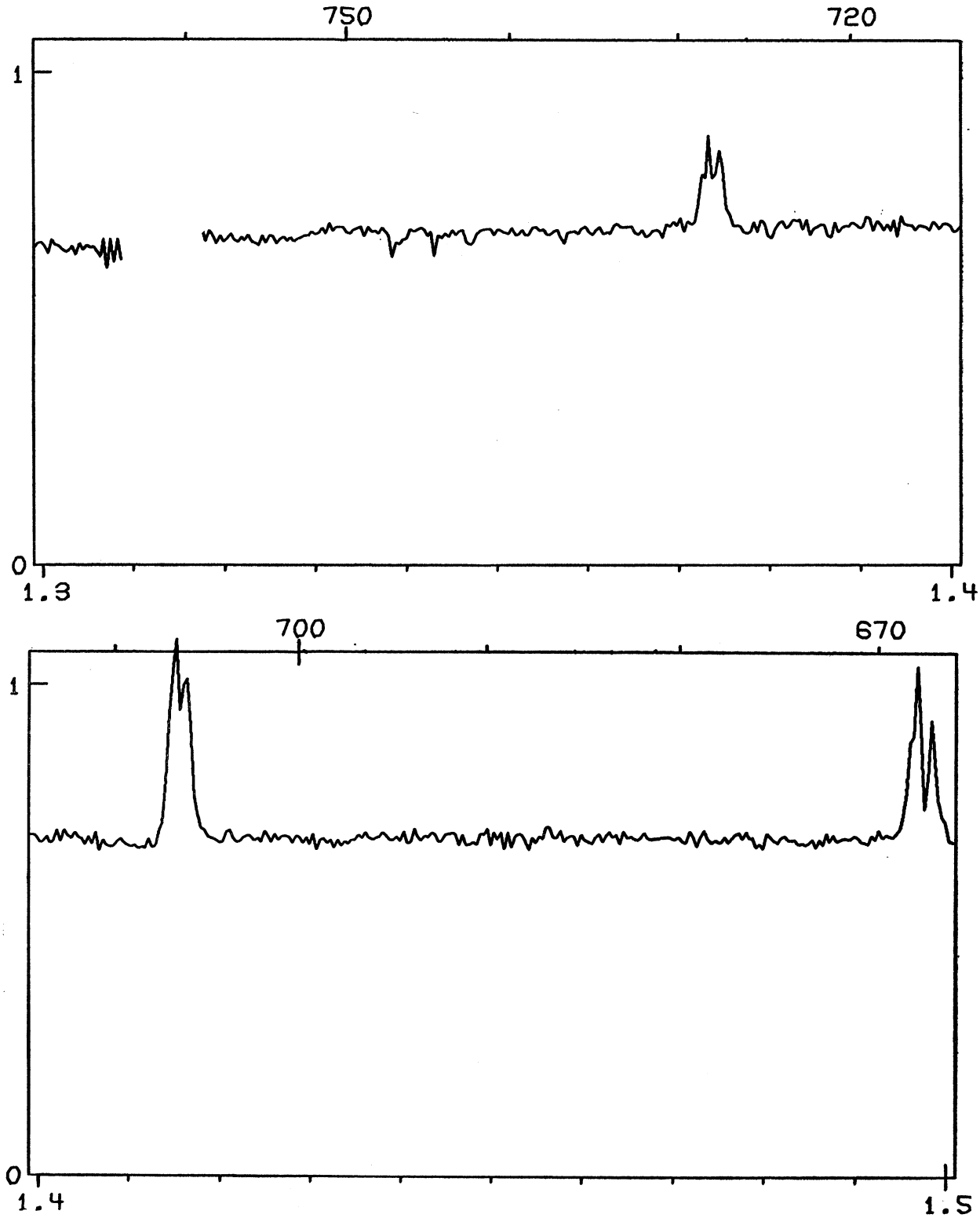


FIG. 38. The spectrum of β Lyr.

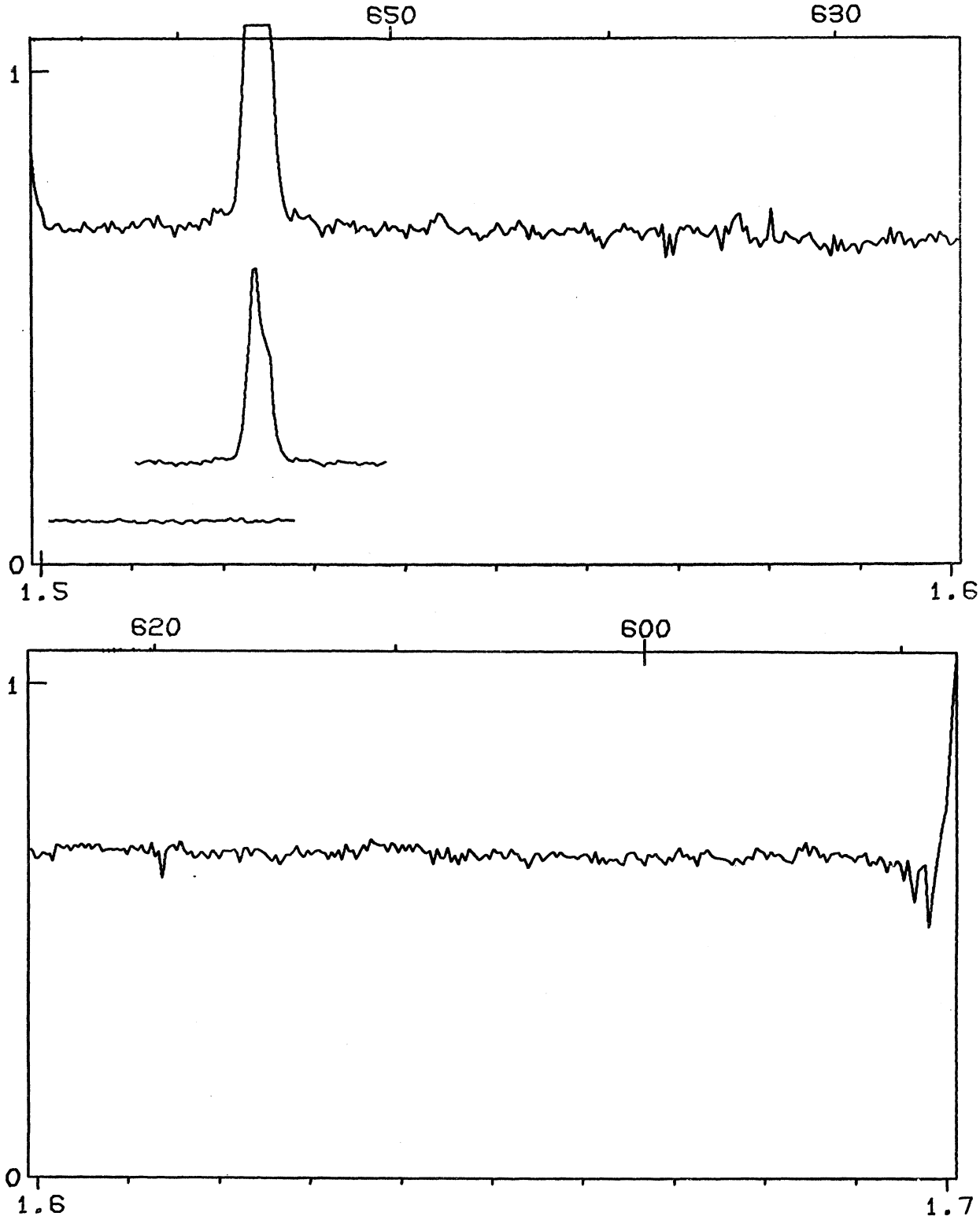


FIG. 38. The spectrum of β Lyr.

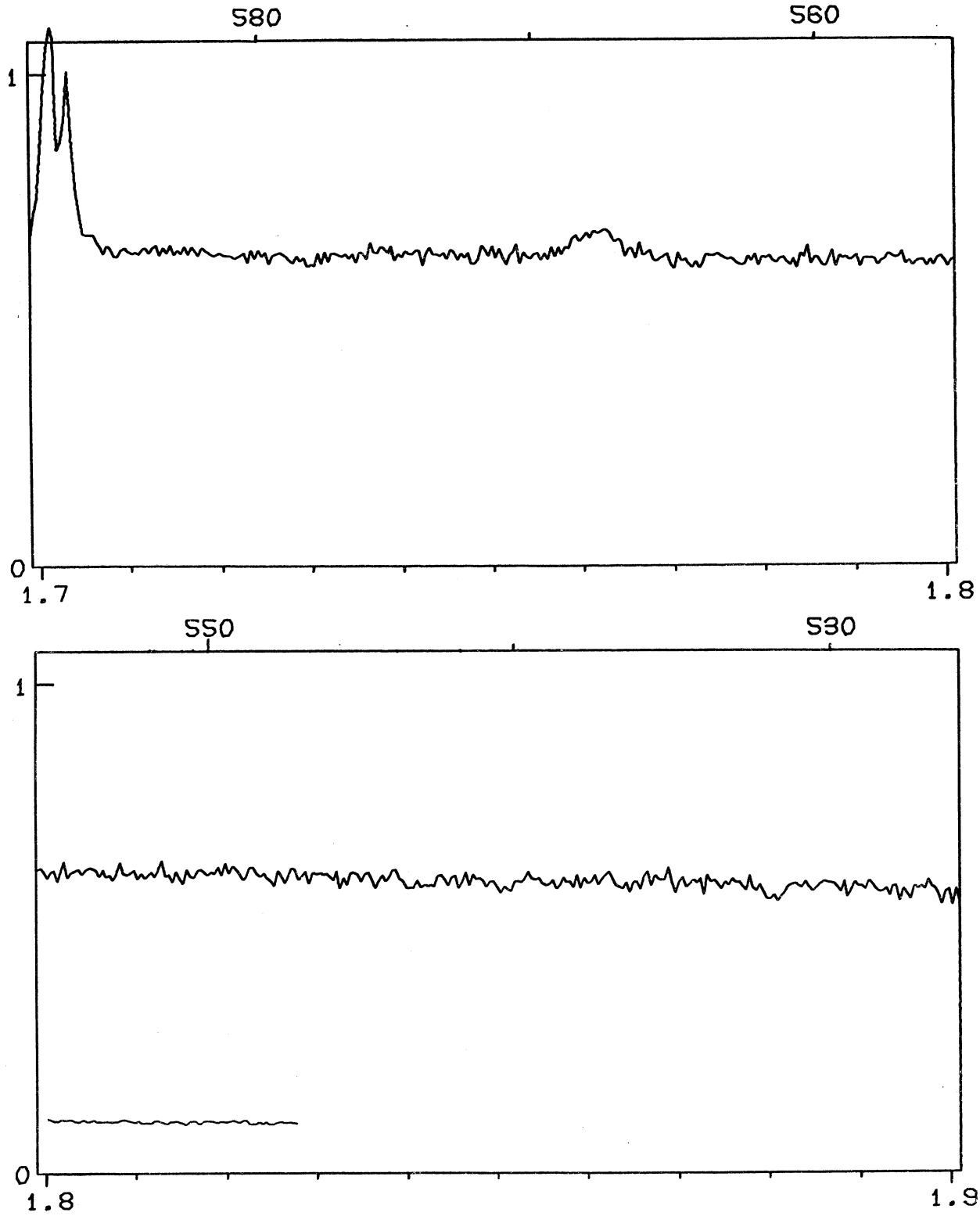


FIG. 38. The spectrum of β Lyr.

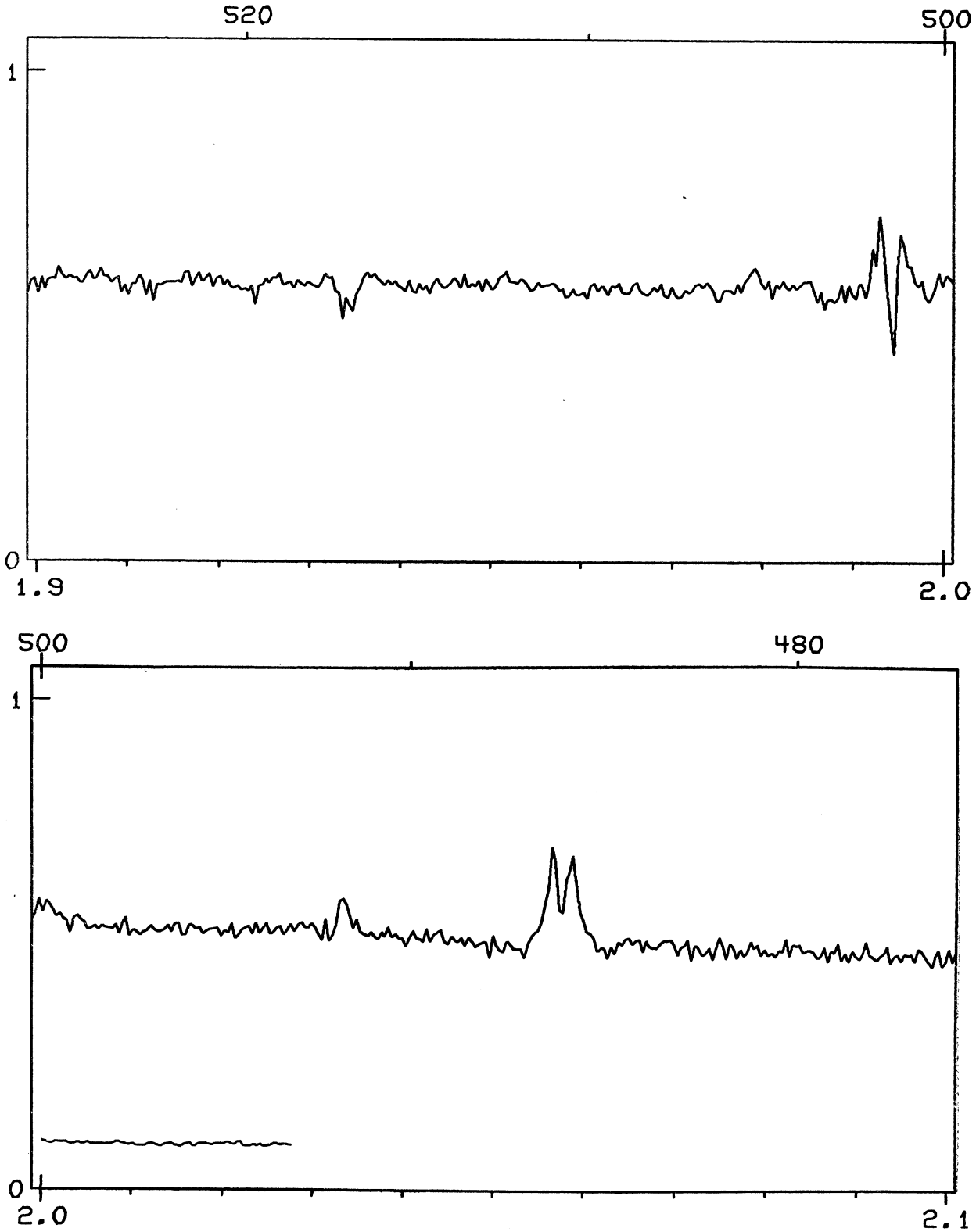


FIG. 38. The spectrum of β Lyr.