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TURBULENT MOTIONS IN MOLECULAR CLOUDS

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ABSTRACT: We have studied the behavior of the inner motions of OH, H_2CO and CO molecular clouds. This study shows the existence of two main components of these clouds: the narrow one, associated to dense small clouds and a wide one "representing" the large diffuse clouds seen in neutral hidrogen. The large clouds are the "vortex" and intermediate state between turbulent and hydrodynamic motions in the galaxy.

For the dense clouds with sizes d < 10pc we have found a relationship $\sigma \alpha d^{0.38}$ consistent with the Kolmogorov law of turbulences; the densities and sizes of these clouds behave as $n \alpha d^{-1}$. This last relation for these molecular clouds is compared with the H II one. Also, we discuss the effects of the inner magnetic field in these clouds.

Key words: Interstellar medium, molecular clouds.

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