

**GRAVITATION AND THERMODYNAMICS INTERPLAY,  
AND PERFECT-FLUID IMPLICATIONS**

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**Abstract.** This talk will have to do with dynamical description of bounded gravitating and thermodynamic perfect-fluid sources, as models of astrophysical and cosmological large-scale structures, with specific emphasis on the consequences of this binary nature of the structures on their physical parameters, theoretically proposed and observationally determined, like pressure, temperature, thermodynamic energy, mass density, gravitational field, etc, as important factors determining the conditions for the formation of the spectral lines.