SHORT TALKS

Tereza Vardanyan

Postdoctotal Researcher

University of Bologna

Exact Solutions of the Einstein Equations for an Infinite Slab with Constant Energy Density.

Abstract

We find exact static solutions of the Einstein equations in the spacetime with plane symmetry, where an infinite slab with finite thickness and homogeneous energy (mass) density is present. In the first solution the pressure is isotropic, while in the second solution the tangential components of the pressure are equal to zero. In both cases the pressure vanishes at the boundaries of the slab. Outside the slab these solutions are matched with the Rindler spacetime and with the Weyl-Levi-Civita spacetime, which represent special cases of the Kasner solution.