

# India-JINR workshop on elementary particle and nuclear physics, and condensed matter research

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## BEC Stars in Rastall and Rainbow Gravities

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We study the global properties of a star made of self-gravitating Bose-Einstein Condensates Rastall, Rainbow and combined Rastall-Rainbow theories of modified gravity. By employing a relativistic and non-relativistic BEC equation of state we solve the stellar structure equations in these theories and quantify the mass and radius of the BEC stars. We also study the effect temperature on BEC stars in these modified theories.

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