Compact objects in Einstein gravity with nonlinear scalar field source in $(2 + 1)$ dimensions

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In this talk, we present the space-time geometry generated by compact $(2 + 1)$-dimensional objects within the framework of Einstein gravity coupled to a nonlinear scalar field. We explore the behavior of solutions relative to the effects of nonlinearity on the kinetic term of the scalar field. The analysis reveals two general classes of objects: structures lacking an event horizon and horizonless extremal objects. In both cases, they are characterized by a typical radius scale $r = R_0$, but while in the first class, such a radius cannot be reached in finite affine time by radial null geodesics, in the second class, we find the presence of curvature divergences, there that can be seen by geodesic observers.