

There is increasing evidence of the existence of dark matter, there are several conjectures as to the nature of the dark particles. Rotation curves of motion of galaxies and gravitational lensing are some of these. In this talk we present a possible quantum theory of these particles. The theory is based on Hilbert spaces with respect to singular measures and energy operators on them. We introduce the Ayyer–Krishnapur operators and obtain them explicitly in a few cases, also computing their spectrum.

(Part of this work is joint with Werner Kirsch).