Abstract Submitted
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Strangelets at the LHC E. NORBECK, Y. ONEL, University of Iowa — The strangelets considered are nuclei containing several strange quarks. In high-energy heavy-ion collisions, the reaction region consists of a quark-gluon plasma (QGP) in the overlap part and spectators in the non-overlap part. The QGP contains an abundance of strange quarks but is much too hot to produce bound nuclear systems. With a sufficiently large impact parameter, spectators can end up as bound nuclear systems. It can be expected that some strange quarks would cross the boundary between the QGP and the spectators to make spectators into strangelets. These strangelets will follow the outgoing beam. Eventually, dipole magnets will deflect them out of the beam because of their different Z/A ratio. Strangelets, or their decay products, with Z/A sufficiently less than the beam would be seen by the CMS Zero Degree Calorimeter, which is divided into five sections in the horizontal direction. Objects, thought to be strangelets, are seen in cosmic ray showers. These could be formed by cosmic iron nuclei on atmospheric nitrogen at center of mass energies comparable to LHC energies. For cosmic events the A value of the strangelets would be some fraction of $\sim$55. For PbPb the A would be some fraction of 208.

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