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Antiquark nuggets as dark matter: Detection prospects with the ANITA3 experiment

Tuesday, August 4, 2015 4:00 PM (1 hour)

Regions of parameter space for a nearly forty year old hypothesis explaining dark matter with the existence of heavy composite quark objects remain unexplored. The Antarctic Impulsive Transient Antenna (ANITA) experiment, a NASA-sponsored long duration balloon payload, is in a unique position to test this exotic dark matter candidate by exploiting the sensitivity of an on-board monitoring subsystem. We present estimates of the experimental sensitivity of ANITA to these dark matter candidates, and preliminary results for the three flights of the payload to date.

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716

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