



Contribution ID: 3

Type: **Talk**

NEWSdm: Directional Dark Matter Search with Nuclear Emulsion

Wednesday 9 September 2020 13:05 (25 minutes)

The nature of dark matter (DM) is one of the most relevant open problems both in cosmology and particle physics. Many different experimental techniques have been developed to detect Weakly Interactive Massive Particles (WIMPs) as dark matter candidates via their scattering with detector atoms. The NEWSdm experiment, located in the Gran Sasso underground laboratory in Italy, is based on a novel nuclear emulsion technology with nanometric resolution and new emulsion scanning microscopy that can detect recoil track lengths down to one hundred nanometers. Thus, NEWSdm is able to reconstruct the direction of the nucleus recoiling, thus being capable of confirming the Galactic origin of the dark matter. We discuss the potentiality, both in terms of exclusion limits and discovery potential, of a directional experiment based on the use of a solid target made by newly developed nuclear emulsions and read-out systems reaching nanometric resolution. We also report the results of the test exposure conducted in Gran Sasso.

Internet talk

Is this abstract from experiment?

Yes

Name of experiment and experimental site

NEWSdm

Is the speaker for that presentation defined?

No

Details

We can agree on a speaker later (if it is fine to register after talk approval)

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