

# International Conference on High Energy Particle & Astroparticle Physics (ICHEPAP2023)



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## **Solar Investigation of Multicomponent Dark Matter**

*Wednesday, December 13, 2023 5:00 PM (20 minutes)*

**Abstract:** If multiple thermal weakly interacting massive particle (WIMP) dark matter candidates exist, then their capture and annihilation dynamics inside a massive star such as Sun could change from conventional method of study. With a simple correction to time evolution of dark matter (DM) number abundance inside the Sun for multiple dark matter candidates, significant changes in DM annihilation flux depending on annihilation, direct detection cross-section, internal conversion and their contribution to relic abundance are reported in present work.

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**Session Classification:** Parallel Session 3: Non-collider