

The innovative particle tracker for the HEPD space experiment onboard the CSES-02 satellite

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EXECUTIVE SUMMARY

This contribution is about the particle tracker of the HEPD module of the CSES-02 mission, scheduled for 2022.

It is relevant because it documents the first ever use of Monolithic Active Pixel Sensors in space, a breakthrough which will impact on future astroparticle physics experiments.

The authors have carried out the space qualification of the ALPIDE sensor and the electrical and mechanical technology necessary to use it in space.

Both the ALPIDE sensor and support technology have been found to be space-compliant and outperforming past experimental solutions.