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The Deep Space Atomic Clock: Demonstration of a Trapped Ion Atomic Clock in Space

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Research on room-temperature trapped ion atomic clocks at the Jet Propulsion Laboratory recently culminated in the launch of NASA's Deep Space Atomic Clock (DSAC) mission in 2019. Operating in space for 2 years, DSAC achieved a new level of performance among the most stable space clocks now in use and is expected to enable new space clock applications that require both high stability and autonomy. In this paper we will describe the DSAC mission and results, applications, and future directions.

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