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The March 2015 total solar eclipse and its potential for testing the General Theory of Relativity

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Abstract content
 (Max 300 words)

The famous 1919 total solar eclipse expeditions organized by Arthur Eddington and Frank Dyson that first demonstrated the bending of starlight predicted by Einstein's general theory of relativity has long been surpassed by modern applications of the theory, in particular as applied to gravitational lensing. Is there however, still scope to test the general theory of relativity using a total solar eclipse? In this contribution a comparison is made between previous tests and the possibility of using the forthcoming 2015 total solar eclipse to measure the star light deflection. An evaluation is made of the suitability of modern imaging methods versus photographic plates. An observation and hardware strategy is outlined for such a test from Ny-Ålesund, which is situated at 78° 55' N, 11° 56' E on the west coast of Spitsbergen, Svalbard.

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