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Probing Gravity Through Light Bending

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The gravitational deflection of light is a key phenomenon for testing gravitational theories. Recently, a novel method was introduced to compute the angular deflection in non-asymptotically flat spacetimes, based on the construction of null geodesic polygons. Building on this approach, we apply this technique to analyze the angular difference in null geodesic triangles, providing a systematic way to extend the definition of the deflection angle.
In this talk, we explore this method in detail and demonstrate its application in different gravitational models, including Schwarzschild-de Sitter, Einsteinian Cubic Gravity and a spherically symmetric, static Horndeski spacetime. Our results highlight how this framework allows us to obtain the specific contributions of these gravity models, distinguishing them from General Relativity.

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