Théorie, Univers et Gravitation - TUG



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Second order gravitational waves: paving the way for a full calculation.

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Gravitational waves provide a new observational tool to study the universe. There has been extensive research on scalar induced gravitational waves (SIGWs), since they could be the counterpart signal of primordial black holes. SIGWs are sourced by terms quadratic in first order scalar fluctuations from inflation. In this talk, I will discuss the possibility and implication of including tensor fluctuations at first order in the source term. Furthermore, I will talk about the correlation of third order and first order gravitational waves and comment on the imprint this leaves on the spectral energy density. Finally, I will discuss implications for their detectability and observational constraints for models of inflation.

Auteur principal: PICARD, Raphael (Queen Mary University London)

Orateur: PICARD, Raphael (Queen Mary University London)