Contribution ID: **115** Type: **Invited talk in a parallel session**

Eternal Inflation and a Geodesically Complete Universe

Monday, 8 July 2024 16:00 (30 minutes)

I will discuss eternal inflation and the key role that inflation plays in resolving cosmological singularities. I will describe how proposed no-go theorems, such as the famous theorem of Borde, Guth and Vilenkin (BGV) are circumvented or obviated. Our exploration encompasses eternal inflating, loitering, and bouncing models, shedding light on the critical aspects that underpin geodesic completeness and the constraints energy conditions in General Relativity impose on such spacetimes. Ignoring the intractable subtleties introduced by quantum considerations, such as rare tunneling events and Boltzmann brains, we will argue that the universe need not have a beginning or an end.

Primary author: EASSON, Damien (Arizona State University)

Presenter: EASSON, Damien (Arizona State University)

Session Classification: Inflation: perturbations, initial singularities and emergent universes

Track Classification: Early Universe (EU): Inflation: perturbations, initial singularities and emergent universes