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## The Case Against Smooth Null Infinity

Wednesday 16 December 2020 10:30 (30 minutes)

In this talk, I hope to discuss various physical obstructions to Penrose's proposal of smooth conformal compactification of spacetime (a.k.a. smooth null infinity or asymptotic simplicity) and the "peeling property" implied by it.

More precisely, I will show that in the context of the  $N$ -body problem of GR, one should expect that the asymptotic expansions of the Weyl tensor near  $\mathcal{I}^+$  contain *logarithmic terms* at leading order and hence the peeling property does not hold.

Finally, I will outline why these logarithmic terms should in principle be measurable.

*Only basic familiarity with GR will be assumed.*

### Would you be interested in receiving feedback on your talk?

Yes

### Will you be pre-recording your talk?

No

### Length of talk

15-25 minutes

### Are you happy for your talk to be recorded?

No

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**Session Classification:** Parallel Stream 3