Singularity avoidance: possibilities and implications
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While singularities are inevitable in the classical theory of general relativity, it is commonly believed that they will not be present when quantum gravity effects are taken into account in a consistent framework. However, the lack of proper understanding of the dynamical laws dictating the evolution of spacetime and matter in these extreme situations hinders the extraction of predictions in specific models. I will discuss how a purely geometric approach serves to formulate and classify in a model-independent manner the different possibilities that singularity regularization may open, and stress the observational implications that stem from this analysis.

References

