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【481】 Supermassive Stars in proto-globular clusters: Investigating Runaway Collisions and Mass Loss

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Globular clusters, as observed, host various stellar populations with distinct abundance patterns of light elements but the underlying mechanisms remain elusive. The existing literature explores the formation of these populations and their abundances, with one of the proposed scenarios being the creation of supermassive stellar objects via protostar collisions during cluster formation. Inspired by previous studies, this work focuses on the consequences of mass loss induced by collisions between supermassive and protostellar objects of different masses. This work considers an implicit hydrodynamic stellar evolution framework to follow the effects of these collisions on the structure and evolution of the SMS and on the resulting mass loss.

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