Title:	Higher curvature self-interaction corrections to Hawking radiation
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Abstract:	The purely thermal nature of Hawking radiation from evaporating black holes leads to the information loss paradox. A possible route to its resolution could be if (enough) correlations are shown to be present in the radiation emitted from evaporating black holes. A reanalysis of Hawking's derivation including the effects of self-interactions in general relativity shows that the emitted radiation does deviate from pure thermality; however no correlations exist between successively emitted Hawking quanta. We extend the calculations to Einstein-Gauss-Bonnet gravity and investigate if higher curvature corrections to the action lead to some new correlations in the Hawking spectra. The effective trajectory of a massless shell is determined by solving the constraint equations and the semiclassical tunneling probability is calculated. As in the case of general relativity, the radiation is no longer thermal and there is no correlation between successive emissions. The absence of any extra correlations in the emitted radiations even in Gauss-Bonnet gravity suggests that the resolution of the paradox is beyond the scope of semiclassical gravity.
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