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Open heavy flavour in a hot bath

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We present the properties of open heavy mesons in hot mesonic matter based on a self-consistent theoretical approach that takes into account chiral and heavy-quark spin-flavour symmetries. The heavy-light meson-meson unitarized scattering amplitudes in coupled channels incorporate thermal corrections as well as the dressing of the heavy mesons with the self-energies [1, 2]. As a result, the open heavy-flavour ground-state spectral functions broaden and their peak is shifted towards lower energies with increasing temperatures. This has strong implications for the excited mesonic states generated dynamically in this heavy-light molecular model. In addition, we show the meson Euclidean correlators calculated using the thermal ground-state spectral functions obtained within our approach and compare them with recent calculations of lattice correlators [3].

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[3] G. Montaña, O. Kaczmarek, L. Tolos and A. Ramos, Eur. Phys. J. A 56 (2020) 11, 294 doi:10.1140/epja/s10050-020-00300-y

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