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When heavy-ion collisions help distinguish triangle singularities from actual hadrons

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The hadron spectrum is tangled with threshold and triangle singularities
that difficult the identification of actual resonance states.
We present a thermal-field theory computation in the late hadron stage
of the fireball. Our finding is that such singularities can be filtered
by comparing other data to heavy ion collisions:
peaks therein seem more likely to be hadrons than rescattering effects when
two (easily checkable) conditions are met.
First, the flight-time of the intermediate hadron state in the triangle
must be comparable to the lifetime of the equilibrated fireball
(else, the reaction is delayed until after freeze out, proceeding as in vacuo).
Second, the loop-particle mass or width must be sizeably affected by the medium.
When these conditions are met, the singularity can be vastly reduced:
at T about 150 MeV, even by two orders of magnitude, dropping out of the spectrum.
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Primary authors: Prof. ABREU, Luciano (Univ. Federal da Bahia); LLANES-ESTRADA, Felipe J. (Universidad Complutense de Madrid)

Presenter: LLANES-ESTRADA, Felipe J. (Universidad Complutense de Madrid)

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