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Quarkonium Spectral Functions at zero and finite temperature
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VELYTSKY TEAM — I present calculations of quarkonium spectral functions at
zero and finite temperature in lattice QCD. Calculations are performed in quenched
approximation using both isotropic and anisotropic lattices. Lattice artifacts and
systematic uncertainties are investigated in the zero temperature limit in detailed
where many data points in the time direction are available. Then finite temperature
spectral functions for charmonia and bottomonia spectral functions are presented.
It has been found that 1S state charmonia ( J/ψ, ηc ) can survive in the plasma
up to temperatures 1.5Tc with little in-medium modification, while 1S bottomonia
states ( Υ and ηb ) exist in the plasma up to temperatures 4.5Tc. The 1P states (χc,
χb ), on the other hand, dissolve at temperatures of about 1.1Tc.

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