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## Quark-gluon plasma phenomenology from the lattice

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The interquark potential in charmonium states is calculated for the first time in both the zero and non-zero temperature phases from a first-principles lattice QCD calculation. Simulations with two dynamical quark flavours were used with temperatures  $T$  in the range  $0.4T_c \leq T \leq 1.7T_c$ , where  $T_c$  is the deconfining temperature. The correlators of point-split operators were analysed to gain spatial information about the charmonium states. A method, introduced by the HAL QCD collaboration and based on the Schrödinger equation, was applied to obtain the interquark potential. We find a clear temperature dependence, with the central potential becoming flatter (more screened) as the temperature increases.

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