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Many-Body Electronic Structure of Curium metal ANTONINA TOROPOVA, Center for Materials Theory, Department of Physics and Astronomy, Rutgers University, KRISTJAN HAULE, Center for Materials Theory, Department of Physics and Astronomy, Rutgers University, GABRIEL KOTLIAR, Center for Materials Theory, Department of Physics and Astronomy, Rutgers University — We report computer-based simulations for the many-body electronic structure of Curium metal. Cm belongs to the actinide series and has a half-filled shell with seven $5f$ electrons. As a function of pressure, curium exhibits five different crystallographic phases. At low temperatures all phases demonstrate either antiferromagnetic or ferrimagnetic ordering. In this study we perform LDA+DMFT calculations for the antiferromagnetic state of high-pressure fcc modification of Curium metal.

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