The regularization of the Kepler problem and the Bargmann Transform

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There are two known ways to regularize the Kepler problem: via the Kustaanheimo-Steifel transformation or the Moser transformation. M. Kummer showed how to relate these two regularizations by means of a transformation mapping a reduced subspace of C^4 onto the cotangent bundle of the 3-sphere (with the zero section removed). The goal of this talk is to show how a canonical transformation obtained from a Bargmann transform for the 3-sphere (introduced by the author) links the two mentioned regularizations in the analog way as the transformation studied by M. Kummer does it.