1060-57-147 **Ronald van Luijk** and **Melissa Macasieb***, Department of Mathematics, Mathematics Building, College Park, MD 20742, and **Kathleen Petersen**. *Character varieties of a family of 2-bridge knot complements.*

To every hyperbolic finite volume 3-manifold M, one can associate a pair of related algebraic varieties $X(M)$ and $Y(M)$, the $SL_2(\mathbb{C})$- and $PSL_2(\mathbb{C})$-character varieties of M. These varieties carry much topological information about M, but are in general difficult to compute. If M has one cusp, then both these varieties have dimension one. In this talk, I will also show how to obtain explicit equations for the character varieties associated to a family of hyperbolic two-bridge knots $K(m, n)$ and discuss some interesting consequences of these results. This is joint work with Kate Petersen and Ronald van Luijk. (Received March 28, 2010)