1052-58-223 **Daniel Grieser***, Institut für Mathematik, Carl von Ossietzky Universität Oldenburg, D-26111 Oldenburg, Germany, and **Eugenie Hunsicker**. *Pseudodifferential calculus for multiply fibred cusps.* Preliminary report.

We present a pseudodifferential calculus generalizing the 'fibred cusp calculus' introduced by Mazzeo and Melrose and generalized by Vaillant to the case of multiply fibred boundaries and corresponding cusp differential operators. In the case of two fibrations these are locally of the form $P(x, y, z, w; x^3\partial_x, x^2\partial_y, x\partial_z, \partial_w)$. Such operators arise for example as Laplace operator on locally symmetric spaces of Q-rank one. We give conditions for Fredholmness and prove boundedness results on suitable Sobolev spaces. (Received August 28, 2009)