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Birgit Speh* (bes12@cornell.edu), NY. *Period integrals for some representations of $SO(p,q)$* . Preliminary report.

In this talk I discuss branching laws for certain unitary representations of $SO(p,q)$. This is done on the smooth vectors via a version of the *period integrals*, studied in number theory, It is also closely connected to the *symmetry-breaking operators* introduced by T. Kobayashi. We exhibit non-vanishing symmetry breaking operators for the restriction of a representation Π in the discrete spectrum for real hyperboloids to representations of smaller orthogonal groups. I will also discuss that these results suggest a generalization of the Gross Prasad conjectures to non tempered representations of orthogonal groups. The first part of lecture is joint work with B. Orsted and and the second part is joint work with T. Kobayashi. (Received January 31, 2020)