1093-58-187   **Jochen W. Brüning*** (`bruening@mathematik.hu-berlin.de`), Institute for Mathematics, Humboldt-Universität zu Berlin, Unter den Linden 6, 10099 Berlin, Germany. *On the spectral theory of Whitney stratified spaces.*

Let W be a Whitney stratification in the sense of [1], which we assume to be compact, oriented, with dense top stratum, M of dimension m, and without strata of codimension 1. We fix a conic metric, g, on M and consider its Hodge-de Rham operator, i.e. the self-adjoint operator

$$D := \bar{d} + d^* : \mathcal{D}(\bar{d}) \cap \mathcal{D}(d^*) \to \lambda_{(2)}(M).$$

Here, $\lambda_{(2)}(M)$ denotes the Hilbert space of g-square integrable differential forms on M, $\bar{d}$ the closure of d with domain the compactly supported forms in $\lambda_{(2)}(M)$, and d^* its adjoint. We will describe conditions under which D has resolvent in the Schatten class of order p, for any $p > m$, and discuss the index calculation for reductions of D by self-adjoint anticommuting involutions in $\lambda_{(2)}(M)$. The method we use is closely related to the work in [2]. Finally, we will discuss the question to what extent the singular character of W can be detected by the spectrum of D.

[1] J. Mather, *Notes on topological stability*, Bull. AMS **49** (2012), 475-506.

[2] J. Brüning, *The signature operator on manifolds with a conical singular stratum*, Astérisque **328** (2009), 1-44.