MR0293130 (45 #2209) 32F10
Riemenschneider, Oswald
Halbstetigkeitssätze für 1-konvexe holomorphe Abbildungen. (German)
Math. Ann. **192** (1971), 216–226.

Suppose that $f: X \to Y$ is a p-convex holomorphic map and S is an f-flat coherent analytic sheaf on X. For $y \in Y$ let X_y be the fiber of X above y and let S_y be the analytic restriction of S to X_y. Define $d_q(y) = \dim H^q(X_y, S_y)$. The author proves the following: (I) For $q \geq p$, d_q is upper semi-continuous on Y and, when Y is reduced, is locally constant outside a lower-dimensional analytic subset of Y. (II) If Y is reduced and d_q is locally constant for some $q \geq p$, then the qth direct image of S is locally free. The proof rests on the author's method for the proper case [same Ann. **187** (1970), 40–55; MR0261039] together with the blow-down of 1-convex maps. For related results, compare with the reviewer's paper [ibid. **190** (1970/71), 203–214; MR0279341].

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