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CORRECTION

Correction to: The characteristic cycle and the singular support of a constructible sheaf

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The first part of Proposition 7.4 and its proof in pp. 670–671 should be corrected as follows. The author apologizes for the mistake.

Proposition 7.4 (Beilinson) *Let* $\mathbf{P} = \mathbf{P}^n$ *be a projective space, and let* $\mathbf{P}^\vee$ *be the dual projective space. Let* $\mathcal{G}$ *be a constructible complex of* Λ*-modules on* $\mathbf{P}^\vee$*, and let* $\mathcal{F}$ *denote the naive inverse Radon transform* $R\boldsymbol{p}_*\boldsymbol{p}^{\vee *}\mathcal{G}$*. Let* $C^\vee \subset T^*\mathbf{P}^\vee$ *be a closed conical subset such that every irreducible component is of dimension n, and let* $C = \boldsymbol{p}_\circ \boldsymbol{p}^{\vee\circ} C^\vee \subset T^*\mathbf{P}$*. Assume that* $\mathcal{G}$ *is micro-supported on* $C^\vee \subset T^*\mathbf{P}^\vee$*.*

Let X be a smooth subscheme of $\mathbf{P}$*, and assume that the immersion* $h\colon X \to \mathbf{P}$ *is* properly C-transversal. *Using the notation in* (3.10)*, let* $p\colon X \times_\mathbf{P} Q \to X$ *be the projection and* $p^\vee\colon X \times_\mathbf{P} Q \to \mathbf{P}^\vee$ *be the restriction of* $\boldsymbol{p}^\vee$*.*

1. *We have*

$$\mathbf{P}(CCRp_*p^{\vee *}\mathcal{G}) = \mathbf{P}(p_!CCp^{\vee *}\mathcal{G}) = \mathbf{P}(p_!p^{\vee !}CC\mathcal{G}). \tag{7.4}$$

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In particular, for $X = \mathbf{P}$, *we have*

$$\mathbf{P}(CC\mathcal{F}) = \mathbf{P}(\boldsymbol{p}_!CC\boldsymbol{p}^{\vee *}\mathcal{G}) = \mathbf{P}(\boldsymbol{p}_!\boldsymbol{p}^{\vee !}CC\mathcal{G}). \tag{7.2}$$

2. *We have*

$$CCh^*\mathcal{F} = h^!CC\mathcal{F}. \tag{7.3}$$

Proof 1. First, we prove the second equality in (7.4) for properly C-transversal immersion $h\colon X \to \mathbf{P}$. By Corollary 3.13.2, $p^\vee\colon X \times_{\mathbf{P}} Q \to \mathbf{P}^\vee$ is $C^\vee$-transversal and hence $p^*\mathcal{G}$ is micro-supported on $p^{\vee\circ}C^\vee$. Since $p^\vee\colon X \times_{\mathbf{P}} Q \to \mathbf{P}^\vee$ is smooth outside $\Delta_X \subset X \times_{\mathbf{P}} Q$ (3.11), we have $CCp^{\vee *}\mathcal{G} = p^{\vee !}CC\mathcal{G}$ outside $\Delta_X \subset X \times_{\mathbf{P}} Q$ by Proposition 5.17. By the assumption that $h\colon X \to \mathbf{P}$ is C-transversal, the pair $(p^\vee, p)$ is $C^\vee$-transversal on a neighborhood of $\Delta_X \subset X \times_{\mathbf{P}} Q$ by Corollary 3.13.1 (1)⇒(2). Hence, we have the second equality in (7.4).

We prove the first equality in (7.4). We may assume that k $\cdots$

(We keep from the 3rd line of p. 671 to the displayed formula as it is.)

$$\phi_u(Rp_*p^{\vee *}\mathcal{G}, f) \to R\Gamma(Q \times_X u, \phi(p^{\vee *}\mathcal{G}, fp)) \to \bigoplus_v \phi_v(p^{\vee *}\mathcal{G}, fp).$$

For equalities (7.2), it suffices to take $X = \mathbf{P}$.

(From the beginning of the proof of 2. on, no change is necessary.) □