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ERRATUM TO: A REMARK ON THE IRREGULARITY COMPLEX

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Abstract. We correct a wrong statement in [Sab17].

Proposition 3.3 and Corollary 3.4 of [Sab17] should be modified as follows.

Proposition 3.3. *Let us fix $I \subset J$ and let us set $k = k(I)$ for simplicity. Then the natural morphism $\widetilde{\iota}_I^{-1}\mathscr{L}^{>0} \to \widetilde{\iota}_I^{-1}\boldsymbol{R}\widetilde{\iota}_{k*}\widetilde{\iota}_k^{-1}\mathscr{L}^{>0}$ is an isomorphism. The same property holds for $\mathscr{L}_{\prec 0}$ up to replacing $k(I)$ with $k'(I)$.*

Corollary 3.4. *3. With the notation as in Proposition 3.3, the natural morphism*

$$\iota_I^{-1}\operatorname{Irr}_D(\mathscr{M}) \to \iota_I^{-1}\boldsymbol{R}\iota_{k*}\,\iota_k^{-1}\operatorname{Irr}_D(\mathscr{M})$$

is an isomorphism. The same property holds for $\operatorname{Irr}^*_D(\mathscr{M})$ up to replacing $k(I)$ with $k'(I)$. □

Here, the index $k'(I)$ is any index k' such that the following property is satisfied: any $\varphi \in \Phi_{x_o}$ having a pole along $D_{k'}$ has a pole along all the components of D passing through x_o (such a k' exists, due to the goodness condition). Equivalently, the number of $\varphi \in \Phi_{x_o}$ having *no pole* on $D_{k'}$ is maximum (this maximum could be zero).

The last paragraph of the proof of Proposition 3.3 should be replaced with the following.

The case of $\mathscr{L}_{\prec 0}$ is treated similarly by reducing to the case where $\mathscr{M} = \mathscr{E}^\varphi$. Assume first that φ has poles along *all* components of D passing through x_o (i.e., $p = \ell$). If we regard all sheaves considered above as external products of constant sheaves of rank one with respect to the product decomposition in (3.6) and (3.7), the case of $\mathscr{L}_{\prec 0}$ is obtained by replacing $[-\pi/2, \pi/2]$ with the complementary open interval in (3.5), and the corresponding sheaf $\mathbb{C}_{[a,b]}$ with the sheaf $\mathbb{C}_{(a',b')}$ for suitable a', b' (i.e., the extension by zero of the constant sheaf on (a', b')). Then the same argument as above applies to this case.

If the assumption on φ does not hold, then φ has no pole along $D_{k'}$, so that $\iota_{k'}^{-1}\mathscr{L}_{\prec 0} = 0$. We also have $\iota_I^{-1}\mathscr{L}_{\prec 0} = 0$ since e^φ is not of rapid decay *all along* D, so the statement is obvious in this case.

References

[Sab17] C. Sabbah, *A remark on the irregularity complex*, J. Singul. **16** (2017), 100–114.

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