Errata to
Perverse Sheaves and Applications to Representation Theory

Pramod N. Achar

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Thanks to Hamza Benaajja, Andrea Bourque, Joseph Dorta, Sean Griffin, Aneek Maiti, Colton Sandvik, and Vishnu Sivaprasad for various corrections.

page 63 lines $-9, -8$ Change $f_*\underline{\Bbbk}_{\mathbb{C}^\times}$ to $f_*\underline{\Bbbk}_{\mathbb{C}}$.

page 75 line -10 The definition of $\Bbbk(-1)$ is incorrect. It should say

$$\Bbbk(-1) = \mathbf{H}^2_{\mathrm{c}}(\mathbb{A}^1; \Bbbk).$$

page 76 line 13 Change $\underline{\Bbbk}(-n)$ to $\Bbbk(-n)$.

page 76 line -8 Change $\underline{\Bbbk}(-1)$ to $\Bbbk(-1)$.

page 125 line 10 In Exercise 2.12.2, the definition of $\tilde{X}$ is incorrect. It should read:

$$\tilde{X} = \{(x, L) \in X \times \mathbb{P}^2 \mid L \text{ contains the span of the rows of } x\}.$$

page 138 line -14 Delete the second "embedding." It should read: "... a locally closed embedding $h : Y \hookrightarrow X$ that..."

page 140 line 12 Replace "The support of $\mathcal{F}$ is $\overline{Y}$" by "$\mathcal{F}$ is supported on $\overline{Y}$." (In fact, the support of $\mathcal{F}$ is equal to $\overline{Y}$ unless $\mathcal{F} = 0$, in which case its support is empty.)

page 151 line 9 Replace "${}^pD^{\mathrm{b}}_{\mathrm{c}}(X, \Bbbk)^{\leq n}$" by "$\mathcal{F} \in {}^pD^{\mathrm{b}}_{\mathrm{c}}(X, \Bbbk)^{\leq n}$". It should read: "Let n be the smallest integer such that $\mathcal{F} \in {}^pD^{\mathrm{b}}_{\mathrm{c}}(X, \Bbbk)^{\leq n}$."

page 213 line 1 Replace "tilting extension of X" by "tilting extension of $\mathcal{F}$".

page 231 line 19 Replace "finite field of order $\leq q$" by "subfield of $\mathbb{F}_q$".

page 263 line 10 Insert "of." It should read: "... for an example **of** an algebraic group action that..."

page 264 line 18 In (6.1.1), the top arrow should be labelled "b":

$$\begin{array}{ccc} \pi^{-1}(V) & \xrightarrow[\sim]{b} & G \times V \\ {\scriptstyle \pi|_{\pi^{-1}(V)}}\downarrow & \swarrow_{\mathrm{pr}_2} & \\ V & & \end{array}$$

page 337 line -5 The summation should be indexed over $x \in W$, not $w \in W$. The displayed equation should read:

$$\mathrm{ch}([\mathrm{IC}_w(\mathbb{Q})]) = q^{-\ell(w)/2} \sum_{x \in W} P'_{x,w} T_x.$$

page 343 line 12 The last formula in Exercise 7.4.3 should read

$$\mathrm{ch}([\mathrm{IC}_w(\tfrac{\ell(w)}{2})]) = \underline{H}_w.$$

page 373 line 19 The domain and codomain of the parabolic (co)restriction functors should be swapped. It should read:

$$\mathrm{res}^G_{L \subset P}, \mathrm{\backslash res}^G_{L \subset P} : D^{\mathrm{b}}_G(\mathcal{N}_G, \Bbbk) \to D^{\mathrm{b}}_L(\mathcal{N}_L, \Bbbk)$$

page 377 line 23 The notation for the attracting and repelling sets is incorrect. It should read:

$$\mathcal{N}_G^+ = \mathcal{N}_L + \mathfrak{u}_P, \qquad \mathcal{N}_G^- = \mathcal{N}_L + \mathfrak{u}_{\bar{P}}.$$

page 388 line 20 The displayed equation (9.1.2) should read:

$$\Omega \xrightarrow{\sim} W_{\mathrm{ext}}/W_{\mathrm{aff}} \xleftarrow{\sim} \check{\mathbf{X}}/\mathbb{Z}\check{\Phi}$$

page 392 line -3 The dimension formula should read: $\dim_C(L/L') = \nu(L') - \nu(L)$.

page 393 lines $14, 16$ In both displayed equations, the summation should read

$$\sum_{j=i}^{N-1} |\{k \mid \lambda_k \leq j\}|.$$

page 397 line -4 The formula should read

$$\dim \frac{L \cap t^i L'}{t^N L'} = \sum_{j=i}^{N-1} |\{k \mid \lambda_k \leq j\}|.$$