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**Pramod N Achar\*** ([pramod@math.lsu.edu](mailto:pramod@math.lsu.edu)), 262 Lockett Hall, Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803-4918, and **Simon Riche** ([simon.riche@math.univ-bpclermont.fr](mailto:simon.riche@math.univ-bpclermont.fr)). *Reductive groups, the loop Grassmannian, and the Springer resolution.*

Let  $G$  be a reductive group over an algebraically closed field  $\mathbb{k}$  of characteristic  $p > 0$ . Assume that  $p$  is larger than the Coxeter number for  $G$ . I will discuss relationships between the following four categories: (i) the principal block of  $G$ ; (ii) representations of a Borel subgroup  $B$  that are trivial on its first Frobenius kernel; (iii) coherent sheaves on the Springer resolution for  $G$ ; (iv) perverse  $\mathbb{k}$ -sheaves on the loop Grassmannian for the Langlands dual group. This picture, inspired by characteristic-0 results of Arkhipov–Bezrukavnikov–Ginzburg, leads to a graded analogue of the Finkelberg–Mirković conjecture. This is joint work with Simon Riche. (Received January 19, 2016)