Localization of Admissible Locally Analytic Representations

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Let $\mathbb{G}$ be a split connected reductive group scheme over $\mathbb{Z}_p$. An important theorem in group theory is the localization theorem, demonstrated by A. Beilinson and J. Bernstein, and by J.L. Brylinsky and M. Kashiwara. This is a result about the D-affinity of the flag variety of the generic fiber

$$\mathbb{G}_{\mathbb{Q}_p} = X \times_{\mathrm{Spec}(\mathbb{Z}_p)} \mathrm{Spec}(\mathbb{Q}_p).$$

In mixed characteristic an important progress is found in the work of C. Huyghe and T. Schmidt. They give a partial answer by considering algebraic characters. The first part of this presentation will be dedicated to extend this correspondence (the arithmetic localization theorem) for arbitrary characters (over $\mathbb{Z}_p$). In the second part, we will consider locally analytic representations. We will show that for an algebraic character, which is dominant and regular, the category of admissible locally analytic $\mathbb{G}(\mathbb{Z}_p)$-representations, with central character, it is equivalent to the category of coadmissible $\mathbb{G}(\mathbb{Z}_p)$-equivariant arithmetic modules over the family of formal models of the rigid analytic flag variety.