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The integral geometric Satake equivalence in mixed characteristic. (English) [Zbl 07586676]
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Summary: Let $k$ be an algebraically closed field of characteristic $p$. Denote by $W(k)$ the ring of Witt vectors of $k$. Let $F$ denote a totally ramified finite extension of $W(k)[1/p]$ and $O$ its ring of integers. For a connected reductive group scheme $G$ over $O$, we study the category $P_{L^+G}(Gr_G, \Lambda)$ of $L^+G$-equivariant perverse sheaves in $\Lambda$-coefficient on the Witt vector affine Grassmannian $Gr_G$ where $\Lambda = \mathbb{Z}_\ell$ and $F_\ell$ ($\ell \neq p$), and prove that it is equivalent as a tensor category to the category of finitely generated $\Lambda$-representations of the Langlands dual group of $G$.

MSC:
22E57 Geometric Langlands program: representation-theoretic aspects
14F06 Sheaves in algebraic geometry
20G05 Representation theory for linear algebraic groups
14D24 Geometric Langlands program (algebro-geometric aspects)

Full Text: DOI arXiv

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