La variante infinitésimale de la formule des traces de Jacquet-Rallis pour les groupes unitaires
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Abstract. We establish an infinitesimal version of the Jacquet-Rallis trace formula for unitary groups. Our formula is obtained by integrating a truncated kernel à la Arthur. It has a geometric side which is a sum of distributions $J_\sigma$ indexed by classes of elements of the Lie algebra of $U(n + 1)$ stable by $U(n)$-conjugation as well as the "spectral side" consisting of the Fourier transforms of the aforementioned distributions. We prove that the distributions $J_\sigma$ are invariant and depend only on the choice of the Haar measure on $U(n)(\mathbb{A})$. For regular semi-simple classes $\sigma$, $J_\sigma$ is a relative orbital integral of Jacquet-Rallis. For classes $\sigma$ called relatively regular semi-simple, we express $J_\sigma$ in terms of relative orbital integrals regularised by means of zêta functions.