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Centralizers in Langlands dual groups over formal Taylor series. Preliminary report.

Consider the group $\mathcal{C} = \Bbbk((t))^\times$ of invertible Laurent series. The Contou-Carrère symbol is a pairing $\mathcal{C} \times \mathcal{C} \to \Bbbk^\times$, which identifies $\mathcal{C}$ with its own Cartier dual group.

Let G and ${}^L G$ be Langlands dual groups over a field $\Bbbk$ of characteristic zero. For a suitable choice of elements $g \in G(\Bbbk[[t]])$, ${}^L g \in {}^L G(\Bbbk[[t]])$, we construct a version of the Contou-Carrère pairing between the centralizer of g in $G(\Bbbk((t)))$ and that of ${}^L g$ in ${}^L G(\Bbbk((t)))$. We then show that it shares some properties with the usual Contou-Carrère pairing.

This result is a local version of the duality of Hithin's fibers for Langlands dual groups. The duality of Hitchin's fibers was proved by Donagi and Pantev using topological methods; our approach can be used for a geometric proof. (Received February 27, 2007)