1077-39-968   **Lucia Di Vizio***, UMR 8100, CNRS, Université de Versailles-St Quentin, 45 avenue des États-Unis, 78035 Versailles cedex, France, and **Charlotte Hardouin**. *Descent for differential Galois theory of difference equations. Confluence and q-dependency.* Preliminary report.

First of all, we explain how different autors have succeded to descent the differential Galois theory for difference equations constructed by Hardouin-Singer from a differentially closed to an algebraically closed field.

In the second part of the paper, we show that the theory can be applied to deformations of q-series, to study the differential dependency with respect to $x\frac{d}{dx}$ and $q\frac{d}{dq}$. We show that the differential Galois group of the Jacobi Theta function can be considered as the galoisian counterpart of the heat equation. (Received September 15, 2011)

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