THE EPSILON-CONNECTION AND ALGEBRAIC K-THEORY

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The first half of my talk will be denoted to an overview of the theory of de Rham epsilon lines due to Deligne and Beilinson-Bloch-Esnault. The latter assigns a graded line to a pair consisting of a flat connection and a non-zero 1-form on a punctured formal disk. We will also discuss a higher-dimensional version due to Patel. In the second half I will explain how K-theoretic methods can be used to construct a natural connection on epsilon lines that shares many properties with the epsilon-connection introduced by Beilinson-Bloch-Esnault.