Dissertation Defense

Field Patching and Galois Cohomology – Indecomposable and Noncrossed Product Division Algebras over Curves

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Abstract: Let T be a complete discrete valuation ring and let $\hat{X}$ be a smooth projective T-curve. In this talk I will talk about construction of indecomposable and noncrossed product division algebras over F, which is the function field of $\hat{X}$.

The construction is based on the technique "patching over fields", which was proposed by Harbater and Hartmann. In this talk I will recall the technique and present its application to Galois cohomology. In particular, I will apply this patching technique to construct an index preserving section $\mathrm{B}r(\hat{F}) \to \mathrm{B}r(F)$ (where $\hat{F}$ is the completion of F with respect to the valuation induced by the closed fibre), which splits the restriction and use this section to lift indecomposable and noncrossed product division algebras over $\hat{F}$ to F.

Friday, July 9, 2010, 4:00 pm
Mathematics and Science Center: W301

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