# SEMPARIS – Séminaires en région parisienne

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## TBA

**Mardi 13 Mars 2018, 14 :30**
IHES, Amphithéâtre Léon Motchane
Domaines : hep-th

Titre : *Generalized Mcshane's identity via Landau-Ginzberg potential and triple ratios*


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Résumé : *(Joint work with Yi Huang) Goncharov and Shen introduced a Landau-Ginzberg potential on the Fock-Goncharov $A_{G,S}$ moduli space, where $G$ is a semisimple Lie group and $S$ is a ciliated surface. They used the potential to formulate a mirror symmetry via Geometric Satake Correspondence. This potential is the markoff equation for $A_{PSL(2,R),S_{1,1}}$. When $S = S_{g,m}$, such potential can be written as a sum of rank $G * m$ partial potentials. We obtain a family of generalized Mcshane's identities by splitting these partial potentials for $A_{PSL(n,R),S_{g,m}}$ by certain pattern of cluster transformations with geometric meaning. We also find some interesting new phenomena in higher rank case, like triple ratio is bounded in mapping class group orbit. As applications, we find a generalized collar lemma which involves $\lambda 1/\lambda 2$ length spectral, discreteness of that spectral etc. In further research, we would like to ask how can we integrate to obtain the generalized Mirzakhani's topological recursion with $\mathcal{W}_n$ constraint ?*


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