

수학과 세미나

"Matrix Integrals and Map enumeration"

- ▣ 연 사 : 곽진호 교수님(포항공대)
- ▣ 일 시 : 2010년 9월 24일 금요일 16:00~17:00
- ▣ 장 소 : 31351A(대학원세미나실)
- ▣ 대 상 : 수학전공 학부생 및 대학원생

Abstract

- A Gaussian integral on the space of hermitian matrices; (analytic one).
- For a given natural number n and k , fix a long cycle ρ in the symmetric group S_n and count the number of involutions λ in the group S_n such that $\rho\lambda$ has k orbits; (group theoretical one).
- Enumeration of maps: For a given orientable surface S_g with g handles and for the bouquet B_n of n circles, count the number of different cellular embeddings of B_n into S_g ; (combinatorial one).

It will be discussed how the above three problems can be related one another. In fact it is known that this topic is related with the Feynman path integrals and string theory in physics. For further random matrix techniques in combinatorics, see the maps book by Lando and Zvonkin.