

WORKSHOP ON NONPERTURBATIVE GAUGE DYNAMICS

International School for Advanced Studies, Trieste
March 10–12, 2005

Supported by:

- I.N.F.N. “Iniziativa Specifica” Nonperturbative dynamics of gauge theories and related problems in quantum field theory, string theory and statistical mechanics
- International School for Advanced Studies

Preliminary Programme

Thursday, March 10

- 9:30-10:10 C. Imbimbo, The Kontsevich connection on the moduli space of Liouville branes (I)
- 10:10-10:50 P.A. Marchetti, Confinement and topological defects (I)
- 10:50-11:20 Coffee break
- 11:20-12:10 A. Smilga, Superconformal gauge theories in 6 dimensions
- 12:10-13:00 S. Bolognesi, (Almost BPS) Vortices in $\mathcal{N} = 1$ Theories
- 14:30-15:20 F. Ferrari, Three aspects of strongly coupled gauge theories
- 15:20-16:00 L. Mazzucato, Seiberg duality, ADE superpotentials and 2-matrix models
- 16:00-16:20 Coffee break
- 16:20-16:40 G. Giribet, Liouville theory description of instantons in AdS^3
- 16:40-17:00 T. Kuroki, Dijkgraaf-Vafa theory as large N reduction
- 17:00-17:50 N. Dorey, Double-scaling limits of four-dimensional field theories

Friday, March 11

- 9:30-10:10 C. Imbimbo, The Kontsevich connection on the moduli space of Liouville branes (II)
- 10:10-10:50 P.A. Marchetti, Confinement and topological defects (I)
- 10:50-11:20 Coffee break
- 11:20-12:10 G. Travaglini, Twistor inspired calculations of loop amplitudes in gauge theory
- 12:10-13:00 F. Fucito, Nonperturbative effects in supersymmetric gauge theories
- 14:30-15:20 V. Roubtsov, Commuting families in skew fields: integrable systems associated with elliptic algebras

- 15:20-16:10 A. Marshakov, Exactly solvable sigma-models and non-Abelian strings in $N = 1^*$ SUSY gauge theories
- 16:10-16:30 Coffee break
- 16:30-16:50 D. Negradi, Moduli and twistor spaces for calorons
- 16:50-17:40 L. Göttsche, Instanton counting and Donaldson invariants.

Saturday, March 12

- 9:30-10:20 L. Griguolo, Two-dimensional Yang-Mills theory, large N limits and moduli spaces of holomorphic differentials
- 10:20-11:00 F. Bastianelli, $N = 2$ spinning particle description of tensor fields
- 11:00-11:30 Coffee break
- 11:30-12:10 G. Bertoldi, Argyres-Douglas singularities via Matrix Models and double scaling limits
- 12:20-13:00 K. Yoshida, Veneziano-Yankielowicz potential QFT vs. matrix model approach (role of superconformal YM model)
- 14:30-15:20 K. Konishi, New perspectives on nonabelian monopoles
- 15:20-16:00 I. Sachs, $N = 2$ effective action as an integrated anomaly
- 16:00-16:20 Coffee break
- 16:20-16:40 F. Vian, $N = 1$ super Yang-Mills domain walls via the extended Veneziano-Yankielowicz theory
- 16:40-17:20 Yu Nakayama, Effective gauge degrees of freedom and the (non)existence of the glueball superpotential