



Contribution ID: 434

Type: **Talk**

van Baal's legacy: From renormalons to bions

Thursday, 26 June 2014 15:55 (20 minutes)

This talk presents a summary of our current understanding of confinement problem in non-abelian gauge theories. It is dedicated to the memory of Pierre van Baal, who contributed to the field significantly.

I will review recent semi-classically calculable realization of confinement in various gauge theories. In particular, I will describe the role of monopole-instantons (realized by van Baal), and their role in neutral and magnetic bions, and the relation of these semi-classical saddles to 't Hooft's elusive renormalon problem. The techniques I describe uses resurgence theory, and related Lefschetz thimble (homology cycle) decomposition of path integrals.

Primary author: UNSAL, Mithat (North Carolina State University)

Presenter: UNSAL, Mithat (North Carolina State University)

Session Classification: Vacuum Structure and Confinement

Track Classification: Vacuum Structure and Confinement