

16<sup>th</sup> Paris Cosmology Colloquium 2012

THE NEW STANDARD MODEL OF THE UNIVERSE:  
**LAMBDA WARM DARK MATTER ( $\Lambda$ WDM)**  
**THEORY AND OBSERVATIONS**



*Daniel Chalonge Medal coined by the "Monnaie de Paris"*

**OBSERVATOIRE DE PARIS, PARIS CAMPUS**

**25, 26, 27 July 2012**

**Support to the James Webb Space Telescope**

*PURPOSE and TOPICS*

The new concordance model in agreement with observations:  $\Lambda$ WDM (Lambda-dark energy-Warm Dark Matter). Recently, Warm (keV scale) Dark Matter emerged impressively over CDM (Cold Dark Matter) as the leading Dark Matter candidate. Astronomical evidence that Cold Dark Matter ( $\Lambda$ CDM) and its proposed tailored cures do not work at small scales is staggering.  $\Lambda$ WDM solves naturally the problems of  $\Lambda$ CDM and agrees remarkably well with the observations at small as well as large and cosmological scales.  $\Lambda$ WDM numerical simulations naturally agree with observations at all scales, in contrast to  $\Lambda$ CDM simulations which only agree at large scales.

In the context of this new Dark Matter situation, which implies novelties in the astrophysical, cosmological and keV particle physics context, this 16th Paris Colloquium 2012 is devoted to the  $\Lambda$ WDM Standard Model of the Universe.

E. VERGNAUD & J. BERTHIER - communica: Cdon@yahoo.fr - 06 22 71 04 48

