38th INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS
AUGUST 3 - 10, 2016
CHICAGO

Contribution ID: **1267** Type: **Oral Presentation**

Measurement of the B0 -> D*- pi+ pi- pi+ decay branching fraction (10’ + 5’)

Friday, 5 August 2016 18:10 (15 minutes)

We present a measurement of the decay branching fraction BF(B0 -> D\- *pi+pi-pi+) obtained by using a data sample of about 471 million BBbar pairs collected by the BABAR detector at the PEP-II e+e- collider. This measurement is about 3 times more precise than the current world average value. This decay of the neutral B meson can be used as a normalization channel for the measurement of the ratio BF(B0 -> D*\- tau+ nu) /BF(B0->D\-pi+pi-pi+), with tau+ -> pi+pi-pi+ nu that can be extracted from hadron colliders, and could help to shed light on the excess, at the more than 3sigma level with respect to the SM prediction, of BF(B0 -> D*\- tau+ nu)* as measured by several experiments. In addition, a significantly improved measurement of the 3pi structure in this decay is presented.

Presenter: LUSIANI, Alberto (Scuola Normale Superiore and INFN Pisa)

Session Classification: Quark and Lepton Flavor Physics

Track Classification: Quark and Lepton Flavor Physics