

## Contribution submission to the conference SMuK 2021

**Blast-wave description of Upsilon elliptic flow at LHC energies** — KLAUS REYGERS<sup>1</sup>, ALEXANDER SCHMAH<sup>1</sup>,  
•ANASTASIA BERDNIKOVA<sup>1</sup>, NADINE GRUENWALD<sup>1</sup>, and XU SUN<sup>2</sup>  
— <sup>1</sup>Physikalisches Institut, Ruprecht-Karls-Universität Heidelberg,  
Heidelberg, Germany — <sup>2</sup>Georgia State University, Atlanta, Georgia  
30303, USA

A simultaneous blast-wave fit to particle yields and elliptic flow ( $v_2$ ) measured as a function of transverse momentum in Pb–Pb collisions at LHC energies is presented. A compact formula for the calculation of  $v_2(p_T)$  for an elliptic freeze-out surface is used which follows from the Cooper-Frye ansatz without further assumptions. Over the full available  $p_T$  range, the  $\Upsilon$  elliptic flow data is described by the prediction based on the fit to lighter particles. This prediction shows that, due to the large  $\Upsilon$  mass, a sizable elliptic flow is only expected at transverse momenta above 10 GeV/ $c$ .

**Part:** HK  
**Type:** Vortrag;Talk  
**Topic:** Schwerionenkollisionen und QCD Phasen  
**Email:** anastasia.berdnikova@cern.ch