Abstract Submitted
for the 4CS20 Meeting of
The American Physical Society

Measurement of the CP-violating phase ϕ_s in $B_s^0 \to J/\psi\phi$ decays in ATLAS at 13 TeV[1] EASWAR ANAND NARAYANAN, University of New Mexico, ATLAS COLLABORATION — A measurement of the $B_s^0 \to J/\psi\phi$ decay parameters using 80.5 fb^{-1} of integrated luminosity collected with the ATLAS detector from 13 TeV protonproton collisions at the LHC is presented. The measured parameters include the CP-violating phase ϕ_s, the width difference $\Delta\Gamma_s$ between the B_s^0 meson mass eigenstates and the average decay width Γ_s. The values measured for the physical parameters are combined with those from 19.2 fb^{-1} of 7 TeV and 8 TeV data, leading to the following:

$$\phi_s = -0.087 \pm 0.036 \text{ (stat.)} \pm 0.019 \text{ (syst.) rad}$$
$$\Delta\Gamma_s = 0.0641 \pm 0.0043 \text{ (stat.)} \pm 0.0024 \text{ (syst.) ps}^{-1}$$
$$\Gamma_s = 0.6697 \pm 0.0014 \text{ (stat.)} \pm 0.0015 \text{ (syst.) ps}^{-1}$$

Results for ϕ_s and $\Delta\Gamma_s$ are also presented as 68% confidence level contours in the $\phi_s - \Delta\Gamma_s$ plane. Furthermore the transversity amplitudes and corresponding strong phases are measured. ϕ_s and $\Delta\Gamma_s$ measurements are in agreement with the Standard Model predictions.

[1]This research was conducted with the support of NSF Award 1906674.

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Date submitted: 30 Sep 2020 Electronic form version 1.4