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Performance tests during the IBL Stave Integration

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In preparation of the ATLAS Pixel Insertable B-Layer integration, detector components, so called staves, were mounted around the Beryllium ATLAS beam pipe and tested using production quality assurance measurements as well as dedicated data taking runs to validate a correct grounding and shielding schema. Each stave consists of 32 FE-I4 readout chips of $\sim 2 \times 2$ cm size which sums up to over 860k pixels per stave. The integration tests include verification that neither the silicon n-in-n nor the silicon 3D sensors were damaged by mechanical stress, and that their readout chips, including their bump bond and wire bond connections, did not suffer from the integration process. Evolution of the IBL performance during its integration will be discussed as well as its final performance before installation.

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