Stereo angle conventions

The LHCb coordinate system is a right handed system with positive z running along the beam-line away from the interaction point and positive y 'upward'. From this it follows that positive x points toward the cavern access (A-side) and away from the LHC cryogenics (C-side). Positive rotations are defined as being from positive x to positive y.

The three sub-detectors constituting the LHCb tracking system (the Trigger Tracker, the Inner Tracker and the Outer Tracker) are composed of stations each containing four layers. The first and the last layers have silicon strips or straws orientated such that they measure the x coordinate. To allow 3-D track reconstruction the second and third layers are rotated by a small stereo angle. Looking from the interaction point the second layer in each station, referred to as the u layer, is rotated by $-5°$. This is shown pictorially in Fig. 1. The third layer, refered to as v, is rotated by $5°$
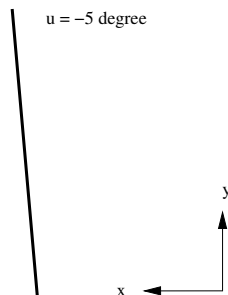

Figure 1: Stereo convention. Positive z is into the page.