Contribution ID: **360** Type: **Oral presentation using Zoom**

Microchannel Cooling for LHCb

Wednesday, 27 October 2021 20:36 (24 minutes)

The LHCb vertex detector, VELO, is being upgraded for the LHC Run3. The new hybrid pixel vertex detector will be capable of 40 MHz readout and will be installed in the secondary vacuum of the LHC at a closest proximity of 5.1 mm to the beams during stable collisions. The pixel detector requires a highly thermally efficient and lightweight cooling system. For this purpose a silicon plate with internal microchannels has been chosen as the backbone of the module, with evaporative CO_2 as the coolant. The reasons for this choice will be presented along with the principal development steps for the design, production and quality assurance of the microchannel plates. The alternatives to microchannel cooling will be discussed along with an overview of cooling solutions which could be considered for future upgrades.

1st preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

2nd preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

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