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New developments of the T-Monitor diagnostic

The tritium monitor diagnostic releases tritium deposited on the inner baffle of the divertor by laser-induced desorption. The tritium that is set free is detected by mass spectrometry (QMS= Quadrupole Mass Spectrometry or RGA= Residual Gas Analysis). After the Conceptual Design Review (CDR), the system was moved in the port plug from the top to the bottom half of the central drawer or Diagnostic Shield Module (DSM) in the equatorial port 17 (EQ#17). This relocation makes a deep revision of the optical design necessary, even more so since the boundary conditions have changed in the interspace and port cell, too.

A glimpse into the physics of the method shall be given, implying strong conditions on the laser specifications. It will be followed by the current status of development for the new position in EQ#17 with the high power desorption laser still located in the tritium building.

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