

Formation of the Cs₂Te photocathode: Auger and Photoemission Spectroscopy Study[†], A. DIBONA^{*}, P. MICHELATO[#], C. PAGANI[#], F. SABARY^{*}, D. SERTORE[#], S. VALERI⁺ - The formation of the Cs₂Te photocathode onto a molybdenum substrate passes through different phases, each of them has been characterised by X-ray photoemission spectroscopy and Auger spectroscopy as well. During the fabrication process different caesium tellurides have been identified in the photoemissive material. The ruggedness to pollution with molecular oxygen at different fabrication stages has been tested. Approximately 5·10⁻⁵ s.torr of exposition reduces the quantum efficiency to one tenth of its original value. The oxidation damage can be partially recovered by simultaneously heating the substrate to 230 °C and illuminating it with the 4.9 eV ultraviolet radiation. No recovering has been observed under the effect of the temperature or the radiation alone.

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