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PAPER TITLE TESTS OF SURFACE CONTAMINATION MONITORS IN ALPHA AND BETA RADIATION STANDARD  
FIELDS AT THE CALIBRATION LABORATORY OF SÃO PAULO

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ABSTRACT (See instructions overleaf)

The need for effective monitoring of surface contamination is quantified in terms of activity per unit area; this quantity is used to specify the derived limits, that are incorporated in the national regulations of radiation protection. These regulations recommend the calibration of all health physics instruments every 12 months. In the case of surface contamination monitors, a special set-up and a method were developed at the Calibration Laboratory of São Paulo, using standard alpha and beta radioactive sources. At São Paulo the monitors are being calibrated using  $^{241}\text{Am}$ ,  $^{14}\text{C}$ ,  $^{36}\text{Cl}$  and  $^{90}\text{Sr} + ^{90}\text{Y}$  sources, and the instrument efficiency is determined for each case for alpha and beta radiation. Moreover, all instruments are being normally tested also with  $^{241}\text{Am}$  sources of different activities (response linearity) and with  $^{137}\text{Cs}$ ,  $^{244}\text{Cm}$ ,  $^{233}\text{U}$ ,  $^{238}\text{Pu}$  and  $^{239}\text{Pu}$  sources (energy dependence). Instruments of different manufacturers and types were used for this study.

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