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ABSTRACT

"Calibration, Integration, and Test Considerations for the Mars '03 Rover Cameras"

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As mentioned earlier in this session, 33 cameras of 5 different types have to be built in short order to meet the Mars '03 schedule, the majority of them flight-qualified. Of necessity, the way in which the camera build is achieved must be highly efficient without sacrificing the accuracy and utility that the rover 'spacecraft' demands. In that light, this paper discusses the rationale behind the streamlined processes that will be used to produce the cameras: integration, with its logistics and flow; qualification testing, which proves the designs; verification testing, which proves the cameras meet their functional requirements; and, calibration, which converts each camera into a scientific or engineering instrument. The driving requirements will be discussed along with the physical layout of the system, methodologies, and instrumentation needed to produce the cameras.