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Title: Infrared radiation measurement system for infrared imaging system, has n-type metal-oxide-semiconductor measurement transistor with gate connected to output operational amplifier, where output is connected to gate reference transistor

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Abstract: NOVELTY - The system has an n-type metal-oxide-semiconductor (N-MOS) reference transistor (242asterisk) with a source connected to an end a reference mirror branch (236asterisk). An operational amplifier (240) has a negative input connected to the source and an output connected to a gate the transistor. An N-MOS measurement transistor (242) has a gate connected to the output the amplifier. A measurement unit measures difference between measurement current (imes1) passing via a measurement bolometer (222) e.g. infrared bolometer, and current (i'ref) passing via a measurement mirror branch (236).

USE - Infrared radiation measurement system for use in an imaging system (claimed) i.e. infrared imaging system. Can also be used for a terahertz imaging system.

ADVANTAGE - The design the measurement system eliminates the need to have transistors in a current mirror assembly, thus avoiding problems resulting from potential a drain a polarization transistor a reference bolometer and load mirror transistors, and hence enabling the imaging system to be compatible with the current tendency reduction supply voltage.

DESCRIPTION DRAWING(S) - The drawing shows a circuit diagram a part a row cells in an infrared imaging system.

Measurement current (imes1)

Current passing via measurement mirror branch (i'ref)

Measurement bolometer (222)

Measurement mirror branch (236)

Reference mirror branch (236asterisk)

Operational amplifier (240)

N-MOS measurement transistor (242)

N-MOS reference transistor (242asterisk)

Drawing:

Derwent Class Code(s): S03 (Scientific Instrumentation, photometry, calorimetry)

Derwent Manual Code(s): S03-A03

IPC: G01J-005/22; G01R-029/08; G01J-005/20; H01L-027/146

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US2003160171-A1 PARRISH W J (PARR-Individual); HEATH J L (HEAT-Individual); AZIZ N Y (AZIZ-Individual); KOSTRZEWA J (KOST-Individual); POE G H (POEG-Individual) PARRISH W J; HEATH J L; AZIZ N Y; KOSTRZEWA J; POE G H