

Instrumentation for submillimeter spectroscopy - 5-6 December 1985, Cannes, France

International Society for Optical Engineering - THIS: a tuneable heterodyne infrared spectrometer



Description: -

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Radio astronomy -- Congresses.
Plasma (Ionized gases) -- Congresses.
Submillimeter waves -- Congresses.
Microwave spectroscopy -- Congresses. Instrumentation for submillimeter spectroscopy - 5-6 December 1985, Cannes, France
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Phaselock system for millimeter

The Gunn oscillators are phase-locked via the bias in an active second-order servo loop. Its low bandwidth, determined by the hole-recombination rate, necessitates the use of a continuously tunable local oscillator.

Instrumentation for submillimeter spectroscopy : 5

See also: Wide-Band Spectrometer for HIFI-FIRST; R.

Allan Variance Use in Radio

Topics examined include optical systems for the NASA Advanced X-ray Astrophysics Facility AXAF , specialized X-ray systems, advanced X-ray optics, gas-filled X-ray detectors, instrumentation for spectrometry on AXAF, X-ray and EUV spectrometers, microchannel plate detectors, and solid-state detectors. In all these papers the Allan variance are very important tools for the development. Fiber spectroscopy and a new generation of large ground-based telescopes are addressed, adaptive imaging spectrometers in astronomy are discussed along with two-dimensional spectroscopy with a universal birefringent filter and a Fabry-Perot interferometer, resonance-ionization mass spectrometry for material analysis and characterization, and time-resolved coherent anti-Stokes Raman spectroscopy and the measurement of vibrational spectra in shock-compressed molecular materials.

Instrumentation for submillimeter spectroscopy : 5

Instrumentation for submillimeter spectroscopy; Proceedings of the Meeting, Cannes, France, December 5, 6, 1985 The design and performance of spectroscopic instruments for submm-wave astronomy are discussed in reviews and reports. The conference presents papers on architectures for hybrid and optical processing, image processing and analysis, and modelization-artificial vision-processing for robots. Influence of the laser characteristics on laser-sampling inductively coupled plasma-mass spectrometry, high-precision measurements of stellar radial velocity variations,

and the on-line spectroscopic monitoring of metal ions for environmental and space applications using photodiode-array spectroscopy are covered.

Architectures and algorithms for digital image processing; Proceedings of the Meeting, Cannes, France, December 5, 6, 1985 (Conference)

Attention is given to IR zoom lens telescopes, large zinc sulphide windows for airborne applications, thermal imaging system evaluation, minimum resolvable temperature difference measurement methods, industrial use of IR spectroscopy, platinum silicide sensor imagery, and recent developments in laser rangefinders.

Allan Variance Use in Radio

I would also like to bring to your attention that the Allan variance method has also played an important role for the development of the first space-borne AOS on board of NASAs Submillimeter Wave Astronomy Satellite SWAS , which is successfully operating since more than two years by now. Topics examined include superconducting mixers, Schottky-diode mixers, local oscillators, antennas and quasi-optical components, spectrometry, and systems aspects.

Phaselock system for millimeter

Papers are also presented on a simple, direct practical method of sensing local motion and analyzing local optical flow, image matching techniques, and an automated biological dosimetry system. Also discussed are concurrent image-processing on hypercube multicomputers, neural-network simulation on a reduced-mesh-of-trees organization, and a goal-seeking neural net for recall and recognition.

Phaselock system for millimeter

Particular attention is given to a very large scale integration system for image reconstruction from projections, a prebuffer algorithm for instant display of volume data, and an adaptive image sequence filtering scheme based on motion detection. Measurements on the spectral characteristics of a phase-locked Gunn oscillator are presented. Competitiveness with regard to sensitivity, was reached for the first time with a semiconductor laser pumped system.

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