1. Record Nr. UNINA9910257437803321

Titolo	Progress of Seismology of the Sun and Stars [[electronic resource]] : Proceedings of the Oji International Seminar Held at Hakone, Japan, 11–14 December 1989 / / edited by Yoji Osaki, Hiromoto Shibahashi
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1990
ISBN	3-540-46645-2
Edizione	[1st ed. 1990.]
Descrizione fisica	1 online resource (XIII, 467 p. 49 illus., 1 illus. in color.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 367
Disciplina	551.2/0999/4
Soggetti	Observations, Astronomical Astronomy—Observations Astrophysics Geophysics Astronomy, Observations and Techniques Astrophysics and Astroparticles Geophysics/Geodesy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Introductory review of solar and stellar oscillations -- Solar equilibrium models and physical processes governing the solar internal structure -- Progress towards a unified equation of state -- Effects of overshooting and magnetic field at the base of the solar convection zone on the 5-minute p-mode eigenfrequencies -- Convective nonovershooting in stellar cores -- Solar neutrino experiments -- Improving the asymptotic approximations of higher-order radial oscillations in stars -- Second-order asymptotic theory of solar acoustic oscillations -- Excitation mechanisms of solar oscillations -- What are the observed high-frequency solar acoustic modes? -- Driving and damping of oscillations -- Nonlinear oscillations in the convective zone -- Asymptotic analysis of inertial waves in the convective envelope of the sun -- Trends in helioseismology observation and data reduction -- The spectrum of solar p-modes and the solar activity cycle -- Helioseismology from the South Pole: Results from the 1987 campaign

-- Observations of solar cycle variations in solar p-mode frequencies and splittings -- Measuring solar structure variations from helioseismic and photometric observations -- Evidence for radial variations in the equatorial profile of the solar internal angular velocity -- The effect of large-scale flows on oscillation ring diagrams -- Observations of p-mode absorption in active regions -- Frequencies, linewidths, and splittings of low-degree solar p-modes -- An experiment to measure the solar ? = 1 rotational frequency splitting -- Phase relation between velocities and temperature fluctuations of the solar 5-minute oscillation -- Influence of photospheric 5-minute oscillations on the formation of chromospheric fine structures -- p-Mode analysis of the IPHIR data -- Search for g-modes in the IPHIR data -- Solar g-modes -- A problem with the 160-minute pulsation of the sun -- The IRIS network for full disk helioseismology. full disk helioseismology. Present status of the programme -- Helioseismology Observations by Solar-A satellite -- The Soho project and helioseismology -- Magnetic field modulation issues for improving global solar oscillation measurements from space -- Construction of long-life magneto-optical filters for helioseismology observations -- Comments on helioseismic inference -- Structure of the solar Core inferred from inversion of frequencies of low-degree p-modes -- Second-order asymptotic inversions of the sound speed inside the sun -- Testing solar envelope models using intermediate-degree p-Mode frequencies -- On the inverse problem of high-degree solar acoustic oscillations: Local analysis of p-Mode ridges -- Two-dimensional inversion of rotational splitting data -- Contribution of high-degree frequency splittings to the inversion of the solar rotation rate -- Has the sun's internal rotation changed through this activity cycle ? -- Internal solar rotation and the boundary layer non-linear dynamo -- Toward seismology of ? Scuti stars -- Oscillations in roAp stars -- In search of the Ap instability strip -- ? Circini: Variability in the infrared and visible -- Pulsations and chemical composition of main sequence magnetic stars -- The seismology of sun-like stars -- Acoustic oscillations in main-sequence stars: HD155543 -- Search for five-minute oscillations in late-type stars by Fabry-Perot interferometer -- Mode trapping in pulsating white dwarfs -- Chemical composition and instability mechanism in the PG1159 stars -- Mode identification in a slowly rotating star from line profile variations -- Long-term variations of nonradial oscillations in a rapidly rotating early-type star (? oph) -- Low-frequency oscillations of rotating massive stars -- The MUSICOS network for MUlti-SIte COntinuous Spectroscopy -- Seismology of Jupiter.

Sommario/riassunto

Helio- and asteroseismology are fast- developing new fields of research that probe the internal structure of stars. The complicated multi-periodic oscillations are studied from both theoretical and observational points of view. Nine articles review the state of the art, including modeling the sun, excitations of oscillations, inverse problems, and the observations of seismic phenomena. One section is devoted to the seismology of stars, a field of research still in its very early development. In addition the reader will find about forty research papers on these subjects.