Record Nr. UNINA9910454879603321 Working papers [[electronic resource]]: astronomy and astrophysics **Titolo** panel reports // Astronomy and Astrophysics Survey Committee, Board on Physics and Astronomy, Commission on Physical Sciences, Mathematics, and Applications, National Research Council Pubbl/distr/stampa Washington, D.C., : National Academy Press, 1991 **ISBN** 1-280-21203-9 9786610212033 0-309-56019-5 0-585-11878-7 Descrizione fisica 1 online resource (356 p.) Altri autori (Persone) BahcallJohn N 520 Disciplina Soggetti Astronomy - Research Astrophysics - Research Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali John N. Bahcall, chair, Astronomy and Astrophysics Survey Committee. Full report of Survey Committee published separately as: The decade of discovery in astronomy and astrophysics. Nota di bibliografia Includes bibliographical references. ""Working Papers""; ""Copyright""; ""Preface""; ""Contents""; ""Panel Nota di contenuto Reports"; ""Radio Astronomy""; ""EXECUTIVE SUMMARY""; ""INTRODUCTION"": ""SCIENTIFIC OPPORTUNITIES"": ""Millimeter and Sub-Millimeter Wavelength Astronomy""; ""Meter to Hectometer Wavelength Astronomy""; ""The Sun, Stars, Pulsars, Interstellar Masers, and Extrasolar Planets""; ""The Planets, Asteroids, and Comets""; ""Radio Galaxies, Quasars, and Cosmology""; ""Challenges For Radio Astronomy in the 1990's""; ""RECOMMENDATIONS FOR NEW FACILITIES""; ""The Millimeter Array""; ""Medium Scale New Instruments:"" ""Small-Scale Projects""""CONTINUING ACTIVITIES AND PROJECTS ALREADY UNDERWAY""; ""Facility Operation and Maintenance, Upgrading of Telescopes and Instrumentation""; ""Projects Already Underway:""; ""Long Range Programs and Technology Developments"";

""SOCIAL, POLITICAL, AND ORGANIZATIONAL CONSIDERATIONS"";

```
""International Opportunities""; ""Balance Between the National
Observatories and University Facilities:"": ""Agency Funding and
Management Policies:""; ""ACKNOWLEDGEMENTS""; ""Report of the
Infrared Panel""; ""I. EXECUTIVE SUMMARY""; ""II. PERSPECTIVE""; ""III.
SCIENCE OPPORTUNITIES""
""A. the Origin of Galaxies""""B. the Origin of Planets, Planetary Systems
and Stars""; ""IV. TECHNICAL OVERVIEW""; ""V. PROJECT
RECOMMENDATIONS""; ""A. Space Projects""; ""Sirtf Science Highlights"";
""Sofia Science Highlights""; ""Smmm Science Highlights""; ""B. Ground-
Based Projects""; ""IRO Science Highlights""; ""C. Performance
Comparison""; ""VI. FUTURE DIRECTIONS""; ""VII. INFRASTRUCTURE"":
""Optical/IR from Ground""; ""EXECUTIVE SUMMARY""; ""Large Scale
Programs""; ""Medium Scale Programs""; ""Small Scale Programs"";
""Infrastructure Support""
""OPTICAL/INFRARED ASTRONOMY IN THE 1990's"""Research
Environment""; ""Science Opportunities""; ""The Origin of Structure in
the Universe""; ""The Origin and Evolution of Galaxies""; ""The Origin of
Stars and Planetary Systems""; ""Technical Developments of the 1980's
and Opportunities for the 1990's""; ""Advances in Telescope
Technology""; ""Advances in Detector Technology""; ""Auxiliary
Instruments"": ""Pioneering a New Frontier: High Angular Resolution
O/IR Astronomy""; ""Adaptive Optics""; ""Ground-Based Optical/Infrared
Interferometry""
""Ground-Based Optical/Infrared Astronomy Outside the US""""
RECOMMENDATIONS OF THE PANEL: LARGE SCALE PROGRAMS"";
""Priority 1: A Coordinated Program For Large O/IR Telescopes"";
""Background""; ""New Science Enabled by Greater Collecting Area"";
""New Science Enabled by Diffraction-Limited Imaging""; ""Expected
Performance Gains""; ""Recommended Program for the 1990's"";
""RECOMMENDATIONS OF THE PANEL: MEDIUM SCALE PROGRAMS"";
""Priority 1: A Coordinated Program for High Angular Resolution"";
""Background""; ""New Science Enabled by High Angular Resolution
Observations""
```

""Recommended Program for the 1990's""