

PHYSICAL REVIEW D

For editorial and subscription correspondence,
please see inside front cover
(ISSN: 0556-2821)

PERIODICALS

Postmaster send address changes to:
American Institute of Physics
500 Sunnyside Boulevard
Woodbury, NY 11797-2999

THIRD SERIES, VOLUME 56, NUMBER 12

CONTENTS

15 DECEMBER 1997

RAPID COMMUNICATIONS

Polarization-temperature correlation from a primordial magnetic field	R7493
Evan S. Scannapieco and Pedro G. Ferreira	
Quasigroups, asymptotic symmetries, and conservation laws in general relativity	R7498
Alexander I. Nesterov	
Supersymmetric Wilson loops in a type-IIB matrix model	R7503
Ken-ji Hamada	

ARTICLES

Bayesian analysis of the polarization of distant radio sources: Limits on cosmological birefringence	7507
Thomas J. Loredo, Eanna E. Flanagan, and Ira M. Wasserman	
Techniques for detecting gravitational waves with a spherical antenna	7513
Stephen M. Merkowitz and Warren W. Johnson	
Ion screening effects and stellar collapse	7529
S. W. Bruenn and A. Mezzacappa	
Effects of electron band structure on neutrino pair bremsstrahlung in neutron star crusts	7548
C. J. Pethick and Vesteinn Thorsson	
Primordial black hole constraints in cosmologies with early matter domination	7559
Anne M. Green, Andrew R. Liddle, and Antonio Riotto	
Cosmological baryon sound waves coupled with the primeval radiation	7566
Kazuhiro Yamamoto, Naoshi Sugiyama, and Humitaka Sato	
General relativistic energy conditions: The Hubble expansion in the epoch of galaxy formation	7578
Matt Visser	
A bubbly universe	7588
Franco Occhionero, Carlo Baccigalupi, Luca Amendola, and Stefano Monastra	
Can topological defects be formed during preheating?	7597
S. Kasuya and M. Kawasaki	
Cosmological perturbations seeded by topological defects: Setting the initial conditions	7608
Nathalie Deruelle, David Langlois, and Jean-Philippe Uzan	
Spacetime structure of an inflating global monopole	7621
Inyong Cho and Alexander Vilenkin	
Nucleosynthesis constraints on scalar-tensor theories of gravity	7627
D. I. Santiago, D. Kalligas, and R. V. Wagoner	
State after quantum tunneling with gravity	7638
Shinji Mukohyama	
Geometric bounds in spherically symmetric general relativity	7650
Jemal Guven and Niall Ó Murchadha	
Sufficient conditions for apparent horizons in spherically symmetric initial data	7658
Jemal Guven and Niall Ó Murchadha	
Necessary conditions for apparent horizons and singularities in spherically symmetric initial data	7666
Jemal Guven and Niall Ó Murchadha	
Reduced phase space formalism for spherically symmetric geometry with a massive dust shell	7674
John L. Friedman, Jorma Louko, and Stephen N. Winters-Hilt	

(Continued)



0556-2821(19971215)56:12;1-H