

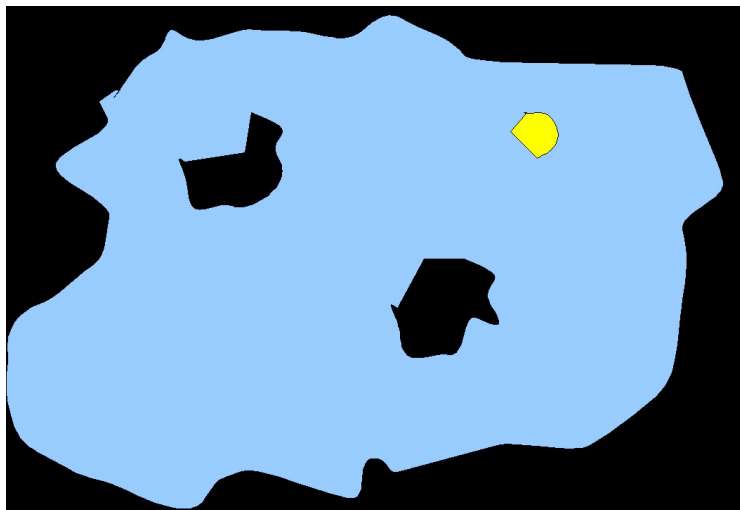
Badatelská komunikace

Vojtěch Svoboda

June 18, 2018

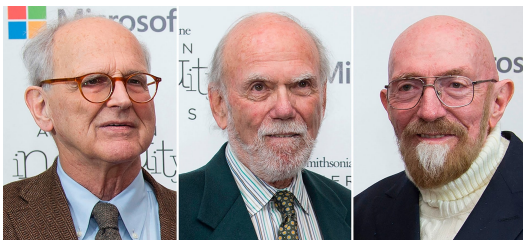
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Hranice lidského poznání



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- Zelenáč
- Začátečník
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- Středně pokročilý
- Pokročilý
- Vědec
- Guru
- Kouzelník

Cesta je dlouhá

Outline

1 Úvod

2 Vědecký článek

3 Konference

Co obnáší badatelská práce

- Bádání.
- Psaní žádostí o granty.
- Nemůže mít klapky na očích.
- Starost o dorost, výuka.
- Byrokracie (bohužel).
- Prezentování, publikování (konference, články, monografie).
- Oponentská práce.
- Neustálé "keep to date", řešerše.

"Publish or perish" či "Publikuj, nebo se pakuji"

Science citation index

- Články v časopisech.
- Vystoupení na konferenci.
- Publikační životopis.
- Citační životopis.

Komunikace

Outline

1 Úvod

2 Vědecký článek

3 Konference



Contents lists available at ScienceDirect

Fusion Engineering and Design

journal homepage: www.elsevier.com/locate/fuseengdes



Remote operation of the GOLEM tokamak for Fusion Education

O. Grover^a, J. Kocman^a, M. Odstrčil^c, T. Odstrčil^c, M. Matusu^a, J. Stöckel^{a,b}, V. Svoboda^{a,*},
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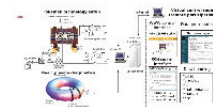
^d Faculty of Electrical Engineering CTU Prague, CZ-166 27, Czech Republic

^e Max-Planck-Institut für Plasmaphysik, D-85748 Garching, Germany

HIGHLIGHTS

- The remote operation of the tokamak GOLEM for educational purposes.

GRAPHICAL ABSTRACT



ARTICLE INFO

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Available online xxx

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Remote participation

Education

Nuclear fusion

ABSTRACT

Practically oriented education in the field of thermonuclear fusion is highly requested. However, the high complexity of appropriate experiments makes it difficult to develop and maintain laboratories where students can take part in hands-on experiments in this field of study. One possible solution is to establish centres with specific high temperature plasma experiments where students can visit such a laboratory and perform their experiments in-situ. With the advancements of IT technologies it naturally follows to make a step forward and connect these with necessary plasma physics technologies and thus allow to access even sophisticated experiments remotely. Tokamak GOLEM is a small, modest device with its infrastructure linked to web technologies allowing students to set-up necessary discharge parameters, submit them into a queue and within minutes obtain the result in the form of a discharge homepage.

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Publikace - jiná liga

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Times Cited: 5
- ☐ 2. **Hawking SW**
[Information loss in black holes](#)
PHYSICAL REVIEW D 72 (8): Art. No. 084013 OCT 2005
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- ☐ 3. **Hawking SW, Hertog T**
[Why does inflation start at the top of the hill?](#)
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- ☐ 4. **Hawking SW, Hertog T, Reall HS**
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PHYSICAL REVIEW D 63 (8): Art. No. 083504 APR 15 2001
Times Cited: 56
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PHYSICAL REVIEW D **73**, 123527 (2006)

Populating the landscape: A top-down approach

S. W. Hawking¹ and Thomas Hertog²

¹*DAMTP, University of Cambridge, Wilberforce Road, Cambridge CB3 0WA, UK*

²*Physics Department, Theory Division, CERN, CH-1211 Geneva 23, Switzerland*

(Received 20 February 2006; published 23 June 2006)

We put forward a framework for cosmology that combines the string landscape with no boundary initial conditions. In this framework, amplitudes for alternative histories for the universe are calculated with final boundary conditions only. This leads to a top-down approach to cosmology, in which the histories of the universe depend on the precise question asked. We study the observational consequences of no boundary initial conditions on the landscape, and outline a scheme to test the theory. This is illustrated in a simple model landscape that admits several alternative inflationary histories for the universe. Only a few of the possible vacua in the landscape will be populated. We also discuss in what respect the top-down approach differs from other approaches to cosmology in the string landscape, like eternal inflation.

DOI: 10.1103/PhysRevD.73.123527

PACS numbers: 98.80.Qc, 11.25.-w, 98.80.Cq

I. INTRODUCTION

It seems likely that string theory contains a vast ensemble of stable and metastable vacua, including some with a small positive effective cosmological constant [1] and the low energy effective field theory of the standard model. Recent progress on the construction of metastable de Sitter vacua [2] lends further support to the notion of a string landscape [3], and a statistical analysis gives an idea of the distribution of some properties among the vacua [4]. But it has remained unclear what is the correct framework for cosmology in the string landscape. There are good reasons to believe, however, that a proper understanding of the cosmological dynamics will be essential for the landscape to be predictive [5].

In particle physics, one usually computes S-matrix ele-

the universe, and there is certainly no opportunity for observing multiple copies of the universe.

In fact if one does adopt a bottom-up approach to cosmology, one is immediately led to an essentially classical framework, in which one loses all ability to explain cosmology's central question—why our universe is the way it is. In particular a bottom-up approach to cosmology either requires one to postulate an initial state of the universe that is carefully fine-tuned [10]—as if prescribed by an outside agency—or it requires one to invoke the notion of eternal inflation [11], which prevents one from predicting what a typical observer would see.

Here we put forward a different approach to cosmology in the string landscape, based not on the classical idea of a single history for the universe but on the quantum sum over

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Hawking SW, Hertog T, Reall HS
PHYSICAL REVIEW D
63 (8): Art. No. 083504 APR 15 2001

Document type: Article Language: English Cited References: 56 Times Cited: 33 FIND RELATED RECORDS Explanation

Abstract:
This paper investigates Starobinsky's model of inflation driven by the trace anomaly of conformally coupled matter fields. This model does not suffer from the problem of contrived initial conditions that occurs in most models of inflation driven by a scalar field. The universe can be nucleated semiclassically by a cosmological instanton that is much larger than the Planck scale provided there are sufficiently many matter fields. There are two cosmological instantons: the four sphere and a new "double bubble" solution. This paper considers a universe nucleated by the four sphere. The AdS/CFT correspondence is used to calculate the correlation function for scalar and tensor metric perturbations during the ensuing de Sitter phase. The analytic structure of the scalar and tensor propagators is discussed in detail. Observational constraints on the model are discussed. Quantum loops of matter fields are shown to strongly suppress shea scale metric perturbations, which implies that short distance modifications of gravity would probably not be observable in the cosmic microwave background. This is probably true for any model of inflation provided there are sufficiently many matter fields. This point is illustrated by a comparison of anomaly driven inflation in four dimensions and in a Randall-Sundrum brane-world model.

KeyWords Plus:
ENERGY-MOMENTUM TENSOR, BRANE-WORLD COSMOLOGY, EARLY UNIVERSE, GRAVITY, ADS, PERTURBATIONS, INSTANTONS, FLATNESS, HORIZON, SPACE

Citační analýza

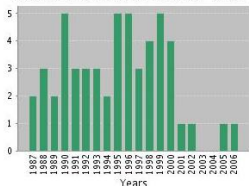


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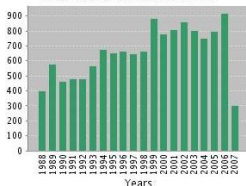
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Reference na článek



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HAWKING SW
COMMUNICATIONS IN MATHEMATICAL PHYSICS
43 (3): 199-220 1975

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- ☐ 2. Li GQ
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THEORETICAL AND MATHEMATICAL PHYSICS 151 (1): 586-589 APR 2007
Times Cited: 0

- ☐ 3. Park MI
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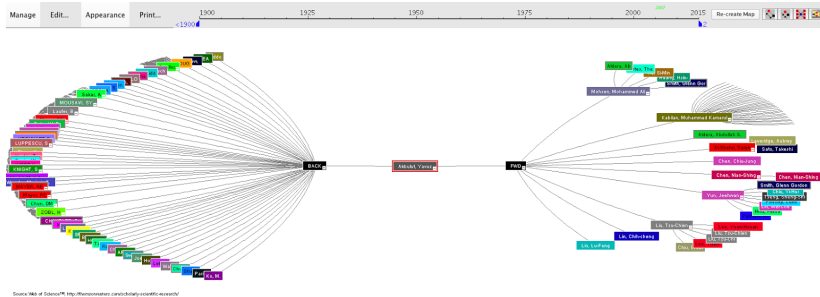
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☐	WANG W	(year unknown)-IN PRESS COGNIT INCT	(article title not available)
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CHINESE-SPEAKING LEARNERS' COGNITIVE COMPREHENSION PROBLEMS WITH ENGLISH VIDEO-BASED MATERIALS	
Number / Title	WOS-000344972301002 / CHINESE-SPEAKING LEARNERS' COGNITIVE COMPREHENSION PROBLEMS WITH ENGLISH VIDEO-BASED MATERIALS
Journal Title	JOURNAL OF EDUCATIONAL COMPUTING RESEARCH
Publication Year	2014
Author	Lin, Li-Fang
Source Abbreviation	J EDUC COMPUT RES
Volume	51

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Outline

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2 Vědecký článek

3 Konference

Konference



kredit:

- Pozvané přednášky
- Shrnující přednášky
- Klasické přednášky
- Posterové sekce
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Vykomunikovat třeba až 1000 příspěvků ..

Program conference

Time	Monday June 17th	Tuesday June 18th	Wednesday June 19th	Thursday June 20th	Friday June 21st
8h30					
9h	Opening session	I-2.01 D.Pesme	I-3.01 M.L.Watkins	I-4.01 G.Morfill	O-5.01 H.Henriksson
		I-2.02 A.Sips	I-3.02 R.Jaenicke	I-4.02 L.N.Vyacheslavov	O-5.02 K.D.Zastrow
10h	Hannes Alfvén Prize lecture	I-2.03 J.-M.Moret	I-3.03 B.Rus	I-4.03 V.E.Semenov	O-5.03 A.Ståbier
	coffee	coffee	coffee	coffee	O-5.04 G.T.Huysmans
11h	I-1.01 H.Lesch	I-2.04 M.Roth	I-3.04 J.T.Mendonça	I-4.04 W.Dorland	O-5.05 J.Candy
	I-1.02 P.Muggli	I-2.05 R.Kodama	I-3.05 K.Krushelnick	I-4.05 E.Ascasibar	O-5.06 I.Nunes
	I-1.03 B.Sautic	I-2.06 I.Cook	I-3.06 P.Helander	I-4.06 H.Summers	O-5.07 M.v.Hellermann
12h					O-5.08 B.E.Chapman
					O-5.09 Y.V.Yakovenko
13h	lunch	lunch	lunch	lunch	lunch
14h	I-1.04 G.Counsell	I-2.07 T.Donné	departure 13h30 Montreux station	I-4.07 M.Okabayashi	I-5.01 U.Schramm
	I-1.05 T.Fukuda	I-2.08 A.Fasoli	Excursion	I-4.08 W.A.Cooper	I-5.02 F.Porcelli
	O-1.01 S.Jachmich	O-2.01 P.Lotte		O-4.01 E.Poli	I-5.03 D.D.Rytov
	O-1.02 S.V.Lebedev	O-2.02 M.J.Hole		O-4.02 A.D.Turnbull	Closing session
	O-1.03 V.Krivinski	O-2.03 J.Stöckel		O-4.03 S.Coda	
	O-1.04 C.Castaldo	O-2.04 P.R.Thomas		O-4.04 Voltsekhovitch	
	coffee	coffee		coffee	
	O-1.05 J.Decker	O-2.05 B.Gonçalves		O-4.05 Krashennnikov	
	O-1.06 F.Sardei	O-2.06 H.W.Müller		O-4.06 A.Bers	
	O-1.07 B.Esposito	O-2.07 G.Martin		O-4.07 B.Coppi	
	O-1.08 V.E.Fortov	O-2.08 M.R.Wade		O-4.08 M.Krämer	
	O-1.09 T.Estrada	O-2.09 D.A.Gates		O-4.09 N.N	
16h					
17h					
18h					
19h	18h30 Montreux Pier Reception Steamer "Lausanne"	Evening session 18h00 - 20h00 Prof. Ian Fells Clean and Secure Energy for the 21st Century ?	return 19h00 Montreux station	18h30 departure for Gala Dinner	

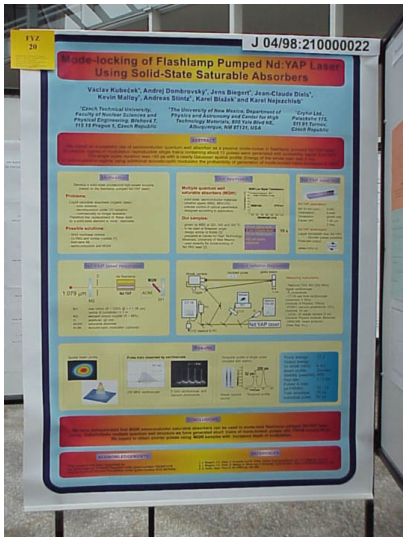


Programme of the 29th EPS Conference on Plasma Physics and Controlled Fusion, Montreux, 2002 status : May 30!

Posterová sekce



kredit: ČVUT workshop 2000



- Nástěnka v určený čas.
- Být v daný čas přítomen

LOC:

- Sehnat magnety.
- First announcement + Call for papers.
- Second announcement.
- Book of abstracts.
- Konference.
- Proceedings.

AUTOR:

- Celoroční práce.
- Přihlášení sebe a příspěvku na konferenci.
- Sepsání jednostránkového abstraktu.
- 4-stránkový proceeding.
- Sestavení prezentace či posteru.
- Odprezentování.

Kýžený závěr

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  author="F. Tibone and J.W. Connor and T.E. Stringer and H.R. Wilson",  
  journal="Plasma Phys. and Control. Fusion",  
  year="1994",  
  volume="36",  
  number="",  
  publisher="Institute of Physics publishing",  
  address="",  
  pages="473-512",  
}
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Závěr

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