

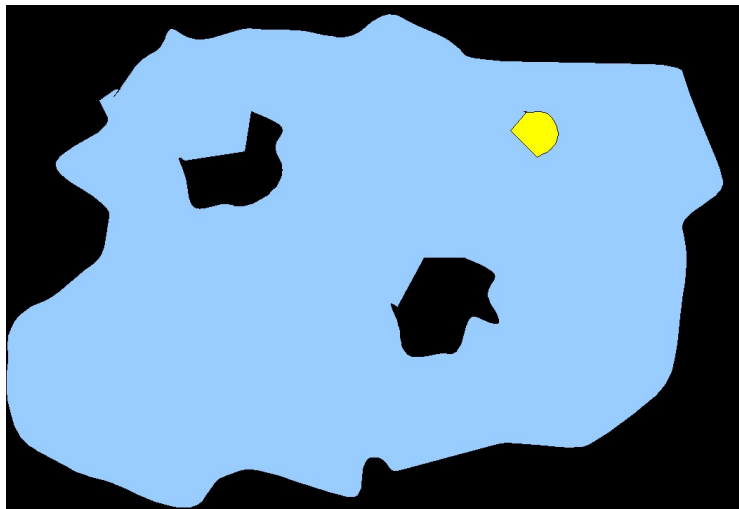
Badatelská komunikace

Vojtěch Svoboda

June 18, 2023

(hrubá zkratka)

Hranice lidského poznání



kredit: [V. Svoboda, 2020]

Poslední Nobelovy ceny za fyziku

The Nobel Prize in Physics 2022

Alain Aspect
John Clauser
Anton Zeilinger

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Alain Aspect

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John F. Clauser

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Anton Zeilinger

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The Nobel Prize in Physics 2022 was awarded jointly to Alain Aspect, John F. Clauser and Anton Zeilinger "for experiments with entangled photons, establishing the violation of Bell inequalities and pioneering quantum information science"

kredit: [The Nobel Foundation, 2020]

Cesta je dlouhá

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

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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^a Faculty of Nuclear Sciences and Physical Engineering CTU Prague, CZ-115 19, Czech Republic

^b Institute of Plasma Physics AS CR, Prague CZ-182 21, Czech Republic

^c University of Southampton, Southampton SO17 1BJ, UK

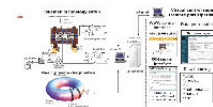
^d Faculty of Electrical Engineering CTU Prague, CZ-166 27, Czech Republic

^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

Article history:

Received 19 June 2015

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Available online xxx

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Tokamak technology

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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[Information loss in black holes](#)
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Times Cited: 30
- ☐ 3. **Hawking SW, Hertog T**
[Why does inflation start at the top of the hill?](#)
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Times Cited: 16
- ☐ 4. **Hawking SW, Hertog T, Reall HS**
[Trace anomaly driven inflation](#)
PHYSICAL REVIEW D 63 (8): Art. No. 083504 APR 15 2001
Times Cited: 58
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kredit: web of science [Clarivate, 2020]

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

1. 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-

ments, 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 histories [12]. We argue that the quantum origin of the


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Brane new world – art. no. 043501
Hawking SW, Hertog T, Reall HS
PHYSICAL REVIEW D
 6204: (4) 3501 →+ AUG 15 2000

Document type: Article **Language:** English **Cited References:** 45 **Times Cited:** 78

Abstract:

We study a Randall–Sundrum cosmological scenario consisting of a domain wall in anti-de Sitter space with a strongly coupled large N conformal field theory. This allows a fully quantum mechanical treatment of this CFT, in contrast with the usual treatment of matter fields in inflationary cosmology. The CFT is dual to a de Sitter geometry for the domain wall. This is the analogue of Starobinsky's four dimensional model of anomaly driven inflation. Studying conditions at the horizon. We calculate the graviton correlator using the Hartle–Hawking "no boundary" proposal and analytically continue to perturbations on all but the largest angular scales. This is true independently of how the de Sitter geometry arises, i.e., it is also true for four dimensional cosmologies that behave like a CFT on small scales, our results suggest that tensor perturbations on small scales are far smaller than predicted by all previous calculations.

Citační analýza



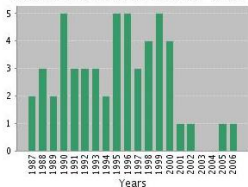
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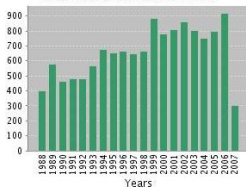
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☐ 2. Li GQ
Tunneling radiation of a Gibbons-Maeda dilaton black hole
THEORETICAL AND MATHEMATICAL PHYSICS 151 (1): 506-509 APR 2007
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☐ 3. Park MI
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Times Cited: 0

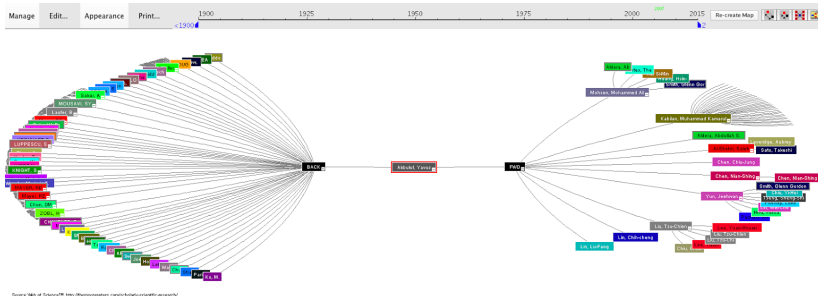
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☒	Alkhalil, Yavuz	2007, INSTRUCTIONAL SCIENCE	Effects of multimedia annotati...
☐	Julstein JH	(year unknown)-IN PRESS 2 LANGUAGE	(article title not available)
☐	Hwangi W	(year unknown)-IN PRESS COGNIT INST	(article title not available)
☐	Hulstijn JH	(year unknown)-IN PRESS COGNITION 2	(article title not available)

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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, Lu-Fang
Source Abbreviation	J EDUC COMPUT RES
Volume	51

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Outline

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3 Konference

Konference



kredit: [Google, 2020]

- Pozvané přednášky
- Shrnující přednášky
- Klasické přednášky
- Posterové sekce
- ... welcom párty, doprovodný pr., farw. párty, satelitní workshopy

Vykomunikovat třeba až 1000 příspěvků ..

Program konference

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.Stäbler
	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
12h	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
					O-5.08 B.E.Chapman
13h	lunch	lunch	lunch	lunch	O-5.09 Y.V.Yakovenko
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		I-4.08 W.A.Cooper	I-5.02 F.Porcelli
15h	O-1.01 S.Jachmich	O-2.01 P.Lotte		O-4.01 E.Poli	I-5.03 D.D.Ryutov
	O-1.02 S.V.Lebedev	O-2.02 M.J.Hole		O-4.02 A.D.Turnbull	Closing session
	O-1.03 V.Krivenski	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	
16h	coffee	coffee	Excursion	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	
17h	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	
18h			return 19h00 Montreux station		
19h	18h30 Montreux Pier Reception Steamer "Lausanne"	Evening session 18h00 - 20h00 Prof. Ian Falls Clean and Secure Energy for the 21st Century ?		18h30 departure for Gala Dinner	



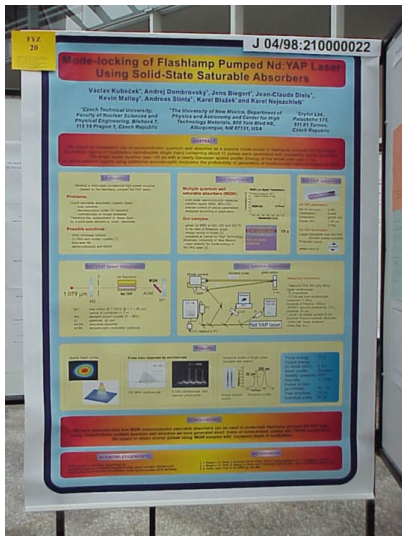
Programme of the 29th EPS Conference on Plasma Physics and Controlled Fusion, Montreux, 2002 status : May 30

kredit: [EPS PPCF conference, 2002]

Posterová sekce



kredit: ČVUT workshop 2000 [CTU, 2011]



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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  title="An assesment of theoretical models based on observations in the JET tokamak",  
  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",  
}
```

kredit: [V. Svoboda, 2020]

Role chairperson



kredit: [SOFT, 2016]

Závěr

Komunikovat všemi směry ..



Clarivate (2020).

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[Online; accessed June 18, 2023].



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Hawking, S. W. and Hertog, T. (2006).

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Phys. Rev. D, 73:123527.



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Miscellaneous.



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