

Title: Populating the Whole Landscape

Date: Jul 13, 2011 05:30 PM

URL: <http://pirsa.org/11070027>

Abstract:

Are the predictions of eternal inflation independent?



Are the predictions of eternal inflation independent of initial conditions?

① measure

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- ① measure
- ② traversable

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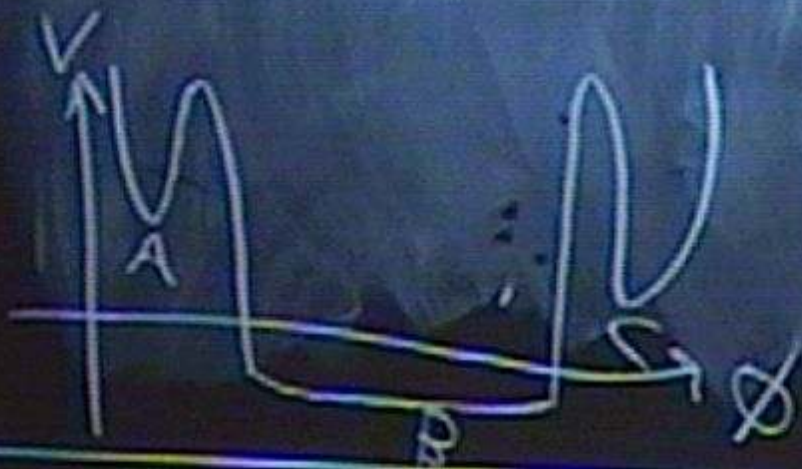
① measure

② traversable (from dS)

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① measure

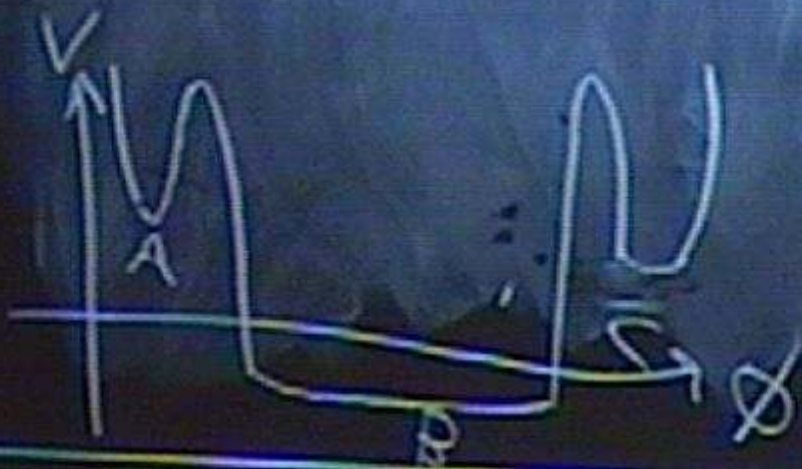
② traversable (from dS)



Are the predictions of eternal inflation independent of initial conditions?

① measure

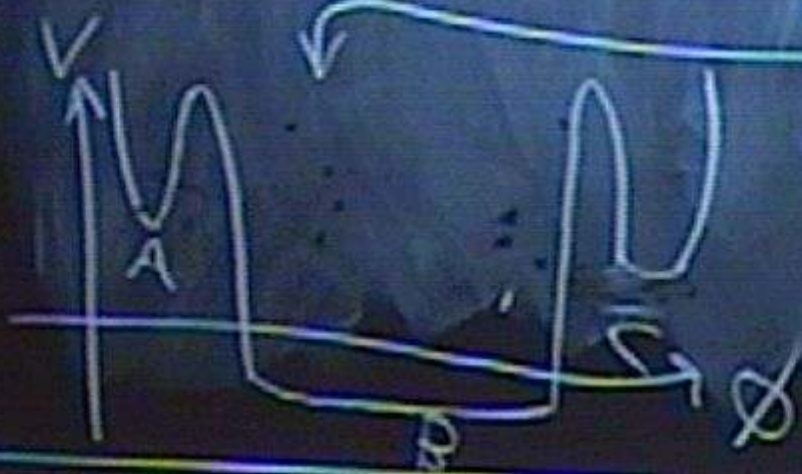
② traversable (from dS)



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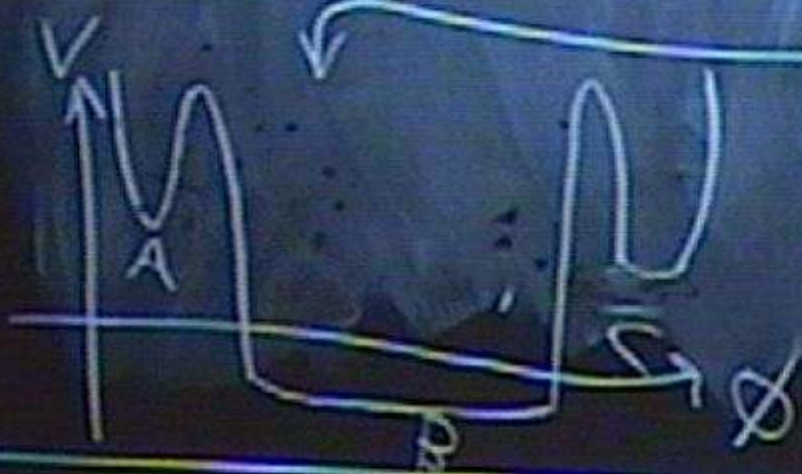


disconnected?

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① measure

② traversable (from dS)

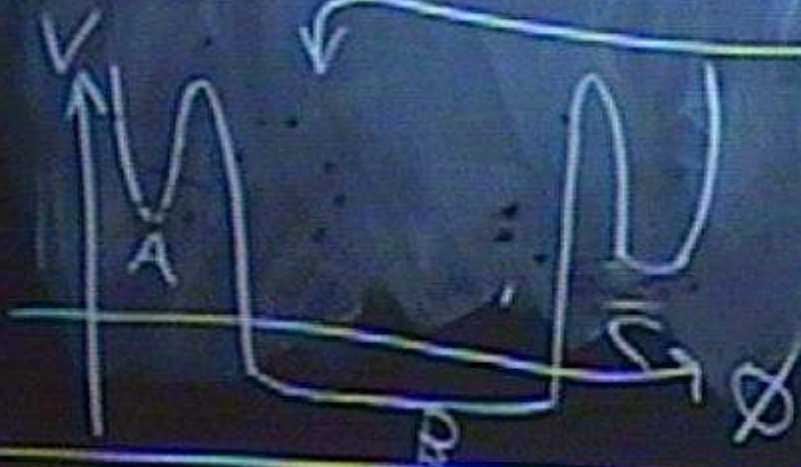


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disconnected?

fixed Minkowski

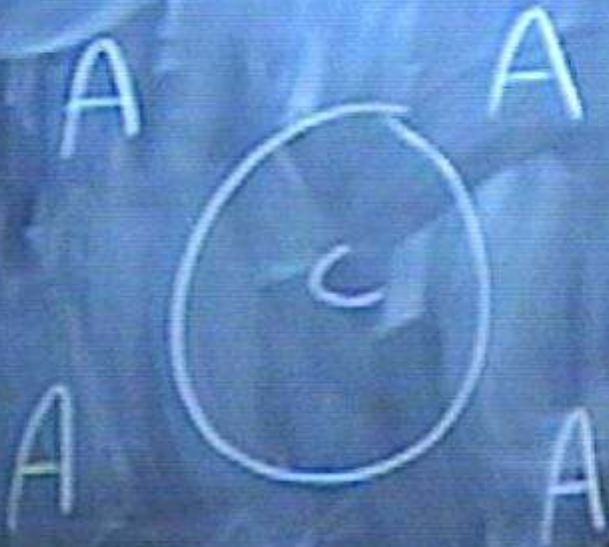
* no instantiation

* $A \rightarrow B$

fixed Minkowski

* no instantiation

* $A \rightarrow B \not\rightarrow C$



fixed Minkowski

* no instantiation

* $A \rightarrow B \rightarrow C$



fixed Minkowski

* no instantiation

* $A \rightarrow B \rightarrow C$



fixed Minkowski *

* no instantiation

* $A \rightarrow B \rightarrow C$



fixed Minkowski ~~*~~

* no instantiation

* $A \rightarrow B \rightarrow C$



QM



fixed Minkowski *

* no instation

* $A \rightarrow B \rightarrow C$



QM

$\sum_{i \in S} e^{iS}$

fixed Minkowski *

* no instantiation

* $A \rightarrow B \rightarrow C$



QM

$$\sum_{\substack{R \\ \#k}} e^{iS}$$

fixed Minkowski \times

* no instanton

* $A \rightarrow B \times C$



QM

$$\sum_{\text{Paths}} e^{iS} \neq 0$$

unless
C.D.I.

fixed Minkowski *

* no instanton

* $A \rightarrow B \rightarrow C$



QM

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QM

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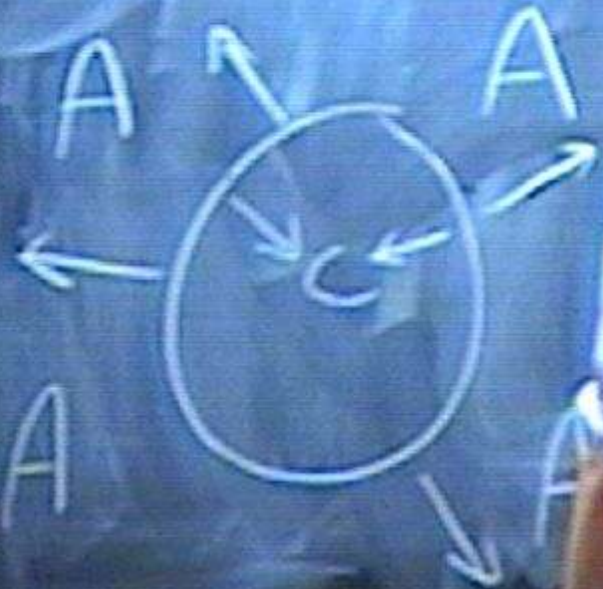
$$\ominus S = \infty$$

fixed Minkowski * / QM

* no instantiation

* $A \rightarrow B \rightarrow C$

$\sum_{i \in S} e_i \neq 0$



unless
C.D.I.

- ① $S = \infty$
- ② nodes

fixed Minkowski ✗

* no instanton

* $A \rightarrow B \rightarrow C$



QM ✓

$$\sum_{\text{paths}} e^{iS} \neq 0$$

unless
C.D.I.

① $S = \infty$

② nodes

box ✓.

box ✓.

dynamical gravity

*no instanton

* $A \rightarrow B \not\rightarrow C$

$O(4)$

$$a^2 = -1 + \frac{ka^2}{3} \left(\frac{1}{2} \dot{\phi}^2 + U \right)$$

box ✓.

dynamical gravity

*no instanton

* $A \rightarrow B \times C$

$O(4)$

$$a^2 = -1 + \frac{ka^2}{3} (1 + \dots)$$



box ✓.

dynamical gravity

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$O(4)$

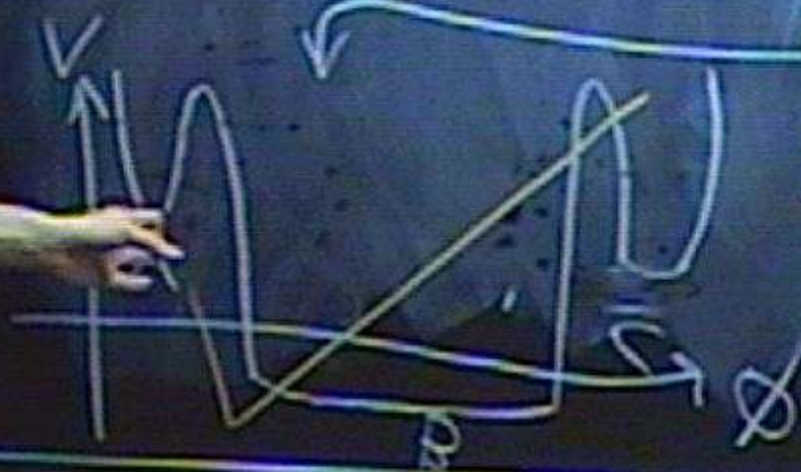
$$\dot{a}^2 = -1 + \frac{ka^2}{3} \left(\frac{1}{2} \dot{\phi}^2 + U \right)$$



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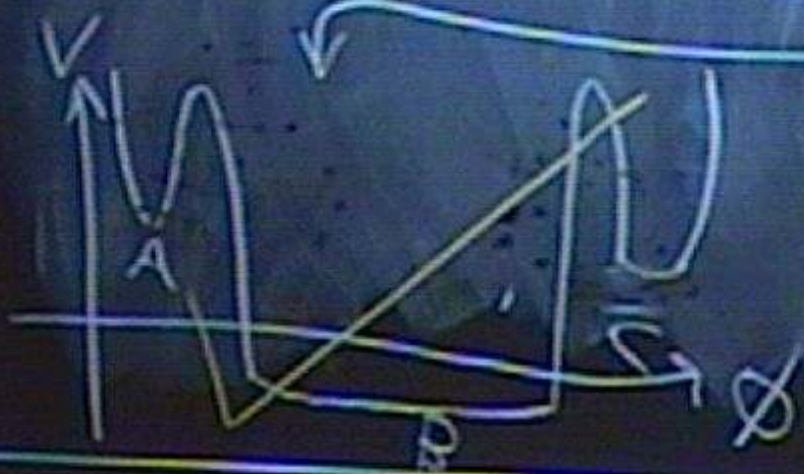


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