

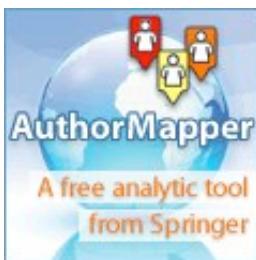


sponsored by Springer

[Search](#) [Register](#) | [Log in](#)

CiteULike

tigertooth4's CiteULike



SAGE-Hindawi
Open Access
Journals -
*Setting Research
Free*
Submit Your
Work Today!



How to make electricity

Tired of bills? A shocking secret electric co's don't want you to know
www.Power4Home.com

WAVE Official Site

Water, Air & Energy Technology For Your Family's Well Being.
www.WaveVentilation.com

Partial

CiteULike is a free online bibliography manager. [Register](#) and you can start organising your references online.

Expanding wave solutions of the Einstein equations that induce an anomalous acceleration into the Standard Model of Cosmology

Export

by: [Blake Temple](#), [Joel Smoller](#)

Proceedings of the National Academy of Sciences (17 August 2009)

Citation Format

Plain

[Posts]

View FullText article

- [DOI](#), [HighWire](#), [HighWire \(PDF\)](#)

► Reviews [[Write a review of this article](#)]

▼ Find related articles from these CiteULike users

- [tigertooth4](#)

▼ Find related articles with these CiteULike tags

- [cosmology](#), [einstein](#), [equation](#), [solution](#), [standard](#), [wave](#)

► Posting History

▼ Abstract

10.1073/pnas.0901627106 We derive a system of three coupled equations that implicitly defines a continuous one-parameter family of expanding wave solutions of the Einstein

tigertooth4's tags

All tags in tigertooth4's library

Filter:

[\[Display as Cloud\]](#)

einstein	2
moyal	2
self-dual	2
water	2
wave	2
amplitude	1
cosmology	1
dispersionless	1
equation	1
function	1
gravity	1
integrable	1
interaction	1
kp	1
large	1
matrix	1
model	1
multi-component	1
partition	1
shallow	1
soliton	1
solution	1
standard	1
tau-function	1
twistor	1
vorticity	1

differential equation

Maths Tutoring
For Grades K-12.
Unlimited Live
Tutoring. Free
Trial
[TutorVista.com](http://www.tutrvista.com)

Curvature Cosmology

A complete
accurate
cosmology in a
static universe.
NOT Big Bang.
davidcrawford.big

equations, such that the Friedmann universe associated with the pure radiation phase of the Standard Model of Cosmology is embedded as a single point in this family. By approximating solutions near the center to leading order in the Hubble length, the family reduces to an explicit one-parameter family of expanding spacetimes, given in closed form, that represents a perturbation of the Standard Model. By introducing a comoving coordinate system, we calculate the correction to the Hubble constant as well as the exact leading order quadratic correction to the redshift vs. luminosity relation for an observer at the center. The correction to redshift vs. luminosity entails an adjustable free parameter that introduces an anomalous acceleration. We conclude (by continuity) that corrections to the redshift vs. luminosity relation observed after the radiation phase of the Big Bang can be accounted for, at the leading order quadratic level, by adjustment of this free parameter. The next order correction is then a prediction. Since nonlinearities alone could actuate dissipation and decay in the conservation laws associated with the highly nonlinear radiation phase and since noninteracting expanding waves represent possible time-asymptotic wave patterns that could result, we propose to further investigate the possibility that these corrections to the Standard Model might be the source of the anomalous acceleration of the galaxies, an explanation not requiring the cosmological constant or dark energy.

► **BibTeX record**

► **RIS record**

[Privacy Statement](#) | [Terms & Conditions](#)