

# The Law Governing Universe Instability

Ron Bourgoin

Edgecombe Community College

Rocky Mount, North Carolina, USA

## Abstract

It is obvious that the principle directing the expansion of the universe works in a way completely opposite to what we expect. We therefore come up with a law that says a nearby universe is tugging at ours on the basis of an inverse cube relationship, not inverse square.

Our universe has been found not only to be expanding but to be expanding at an accelerated rate. Some have hypothesized that the cause of expansion is a nearby universe tugging at ours. We show that an inverse cube law is responsible for this tugging.

The law governing universal instability, we propose, is

$$\frac{dP}{dr} + \frac{n}{r}(P) = 0 \quad (1)$$

where  $P$  is the potential function,  $n$  is the number of universes involved, and  $r$  is the distance between them.

It has been supposed the law at work between universes is inverse square, with potential function

$$P = \frac{a}{r} \quad (2)$$

whose use in equation (1) produces

$$-\frac{a}{r^2} + \frac{2}{r} \left( \frac{a}{r} \right) \neq 0 \quad (3)$$

where we observe that the inverse square law cannot explain the instability. However an inverse square potential can produce the instability. In that case the potential is

$$P = \frac{a}{r^2} \quad (4)$$

whose placement into equation (1) provides

$$-\frac{2a}{r^3} + \frac{2}{r} \left( \frac{a}{r^2} \right) = 0 \quad (5)$$

Our proposed law of universe instability predicts that the universal expansion we measure is due to an inverse cube law of attraction at work between ours and a neighbor universe.

### Bibliography

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