
Living Inside the Cosmic Egg

A P Fairall

e-mail: fairall@physci.uct.ac.za

Imagine waking up one morning and finding yourself trapped inside a hollow easter egg! You cannot see out - and you cannot get out. It seems a weird analogy, but, on a cosmological scale, it is true.

Our view of the entire observational universe is a sphere. We are at the centre and the radius is about 15 billion light years. As we look outwards through the sphere, we look back in time. But the sphere is contained within an opaque shell, because the very early universe was opaque, not transparent- as it has been ever since. The shell exists in time, not in place. It is a horizon, not a physical structure. Nevertheless we can never see through it, or go through it. We appear trapped inside this cosmic egg!

** This is the first instalment in a series of abstracts of papers delivered at the national Symposium. Full versions of available papers appear separately, elsewhere in this issue.*

SYMPOSIUM PROCEEDINGS

The inside surface of the egg reveals a snapshot of an almost featureless early universe. The COBE satellite and others have revealed the weakest of fluctuations.

Today, those fluctuations have developed into large-scale structures that form an interconnecting labyrinth. All galaxies appear contained within these large-scale structures. (In the live presentation, a sequence of three-dimensional visualisations of nearby large-scale structures was shown.)
