Physical Aspects of the Origin of Life Problem I

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DNA in a temperature gradient: Temperature differences across porous rocks may feed accumulation and replication of evolving molecules. Such non-equilibrium conditions near porous **thermal submarine vents** are pieces in the fascinating puzzle of the origin of life.

In the RNA world of the early soup we are studying how a **genetic code** could originate, building an **RNA ribozyme** that can charge an amino acid without enzymes, a primitive tRNA. We also show that the initial code could have started with four amino acids only: valine (GUC), alanine (GCC), glycine (GGC), aspartate (GAC).