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## Lightning, Evolution and Biology

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Most electrical activity in vertebrates and invertebrates occurs at extremely low frequencies (ELF), with characteristic maxima below 50Hz. The origin of these frequency maxima is unknown and remains a mystery. We propose that over billions of years during the evolutionary history of living organisms on Earth, the natural electromagnetic resonant frequencies in the atmosphere, continuously generated by global lightning activity, provided the background electric fields for the development of cellular electrical activity. In some animals the electrical spectrum is difficult to differentiate from the natural background atmospheric electric field produced by lightning. In this paper we present evidence for the link between the natural ELF fields and those found in many living organisms, including humans.

Price, C., E. Williams, G., Elhalel and D. Sentman, 2020: Natural ELF Fields in the Atmosphere and in Living Organisms, *Int. J. Biometeorology*, in press.