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## Explanatory Nature of Anthropic Reasoning in Cosmology

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### Abstract

The last decades of cosmology development indicate that it has become, as it were, a rightful discipline of physics researching into the universe with the use of the whole physical knowledge available. In the contemporary cosmology, from the creation of the General Theory of Relativity to the second half of the twentieth century, the main task of cosmologists was to construct and test cosmological models of the universe. Nowadays you will notice that besides these objectives, there is a new type of justifying of the fact that the properties of the observable universe are such as they are, and no other. It is in this context that the anthropic explanation is proposed (the properties of the universe are tuned to the observable biological life forms). The reasonings called an anthropic explanation are formed, attempting to answer the question: *why does the universe have the nature (properties) necessary for the*

*biological life coming into existence in it?* Their objectives are: firstly, an attempt at solving the difficulties of the Standard Cosmological Model; secondly, seeking explanation of the coincidence of large numbers and the so-called physical constants. The supporters of this kind of explanation are themselves aware of its fundamental weakness: it is neither a causal, nor nomological explanation; it fails to have the structure of a generalizing explanation, it is alleged to be a tautology. The anthropic principle in cosmology was initially regarded as an observational constrain for cosmological parameters of the standard model of the universe. However, it can be shown that some consequences of anthropic reasoning are testable, as well as that its explanatory nature is more evident in the specific forms of the theory of explanation.