

Immersive Scientific Communication: A Multidimensional Theoretical Model for Approaching Extended Reality as a Medium

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Abstract-

Extended reality (XR) promises to dramatically change the framework of scientific communication. XR offers new possibilities for creating engaging scientific content, presenting complex information, and designing immersive experiences. Scientists and communicators need to better understand interactive and immersive narratives to harness these potentials of XR. This paper proposes a multidimensional theoretical model for immersive scientific communication that evaluates the interface models of XR, analyzes its levels of reality and interaction, and identifies the dominant characteristics of the narrative. This model promotes the critical and reflective application of XR to science communication, especially citizen science projects.

Index Terms- Extended Reality, scientific communication, immersive technologies

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