Thinking about Scientific Understanding and Explanation as a Structural Realist

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Structural Realism is a viewpoint in the scientific realism debate. In its epistemological guise it holds that our knowledge of the physical world is at best structural. More precisely, we can only know the physical world up to isomorphism. In its ontological guise it explains this structural limitation to our knowledge by appeal to an ontology which is itself in some sense or other wholly structural. Although research into structural realism is booming, little has been said about what its implications are for scientific understanding and explanation. In this talk I explore these implications and argue that at least when it comes to the natural sciences what counts as understanding and explanation has taken a highly abstract and mathematical turn that is very much in line with the structural realist pronouncements.