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Ivo Sachs (LMU München)  
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JOHANNES GUTENBERG  
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# RIND seminar on Mathematical Physics and String Theory

May 9, 2022 at 4 p.m. c.t.  
None

Joint seminar series on Mathematical Physics and String Theory

Urs Schreiber  
Prague U.

## **Anyonic Defect Branes and Conformal Blocks in Twisted Equivariant Differential K-Theory**

The talks begins with an exposition of higher equivariant principal bundle theory, using a convenient category/homotopy-theoretic approach. By way of example and application, I'll then show how this provides a pleasantly transparent way to understand:

1. the CPT-twisting of equivariant K-theory, which has come to be known as the "10-fold way",
2. the neglected twisting of equivariant K-theory by "inner local systems" appearing inside orbi-singularities.

I'll close by briefly indicating how, under the interpretation of K-cohomology as D-brane charge, these two facts have remarkable consequences for the physics of exotic "defect branes" in string theory (arxiv:2203.11838). This is joint work with H. Sati.

[ncatlab.org/schreiber/show/Anyonic+defect+branes+in+TED-K-theory](https://ncatlab.org/schreiber/show/Anyonic+defect+branes+in+TED-K-theory)

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