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# BERN-FRIBOURG GRADUATE SEMINAR

a seminar for Master and PhD students

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Thursday 7<sup>th</sup> April, 2022: 17:15 - 18:00

Room B7, Exakte Wissenschaften, Bern

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## Cantor-Bernstein implies excluded middle

### **Abstract**

Reverse mathematics studies which assumptions are necessary to obtain a given theorem. In this talk we'll look at the Cantor-Bernstein theorem, a standard result of set theory, and show that its proof requires classical logic, i.e. the principle of excluded middle. I'll introduce intuitionistic logic and the set-theoretic setting in which to carry out this proof. The notion of "omniscient sets" will play an important role. If the time allows it, I'll try to show a link between the above setting and computability theory.