

# WYKŁAD WYDZIAŁOWY

w ramach seminarium

## ARYTMETYCZNA GEOMETRIA ALGEBRAICZNA

(organizatorzy: Grzegorz Banaszak, Piotr Krasoń)

Piątek 18 października, godz. 12:00, sala A1-33

Wydział Matematyki i Informatyki UAM w Poznaniu

**Prof. Wojciech Dybalski**

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### *The Bisognano-Wichmann property in algebraic QFT of massless particles*

#### **Abstract:**

In algebraic QFT the Bisognano-Wichmann property allows to compute the action of Lorentz boosts from the algebras of observables with the help of the Tomita-Takesaki theory. Among other applications, this property enters as an assumption in modern CPT theorems. However, there are still many open questions concerning its status in algebraic QFT. In this talk I will present a proof of the Bisognano-Wichmann property for asymptotically complete theories of massless particles. These particles should either be scalar or appear as a direct sum of two opposite integer helicities. Thus, e.g., photons are covered. The argument uses results from the theory of induced representations of groups, such as the Mackey subgroup theorem, and Buchholz' scattering theory of massless particles. (Joint work with V. Morinelli).