

Eine Woche, ein Beispiel

5.21. domains in \mathbb{C}^n

Here we collect some concepts of domains in \mathbb{C}^n . I learned it from the course of Prof. Lieb.

convex domain $\xRightarrow{n=1}$ $\xRightarrow{\text{spcv}}$ \Downarrow $\text{pscv} \Rightarrow (\text{CR}) \text{ is solvable} \Rightarrow \text{hol. convex} \xleftarrow{\text{last semester}} \begin{matrix} \text{domain of existence} \\ \Downarrow \\ \text{domain of holomorphy} \end{matrix}$

psh: plurisubharmonic
spsh: strictly plurisubharmonic
pscv: pseudoconvex
spcv: strictly pseudoconvex
(CR): Cauchy - Riemann equation

not presheaf!
not super presheaf!

I prefer spscv...

By Hartog's Kugelsatz, $U - K$ is not domain of existence.
for $n \geq 2$, $K \subset \subset U \subseteq \mathbb{C}^n$.