Eine Woche, ein Beispiel
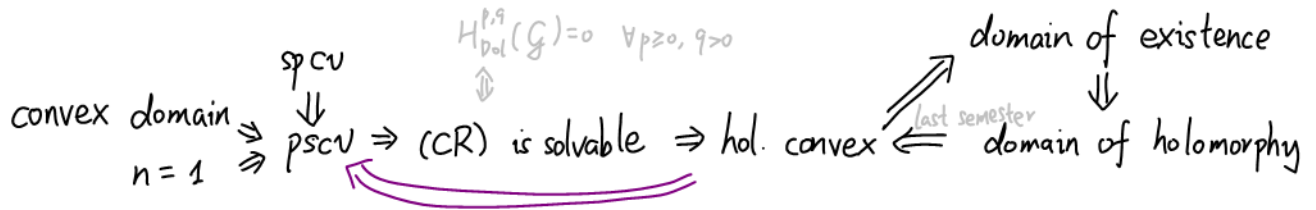## 5.21. domains in $\mathbb{C}^n$

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

$H^{p,q}_{Dol}(G) = 0 \quad \forall p \geq 0, q > 0$

$$\text{convex domain} \underset{n=1}{\overset{spcv}{\underset{\Downarrow}{\Rrightarrow}}} pscv \Rightarrow (CR) \text{ is solvable} \Rightarrow \text{hol. convex} \underset{\text{domain of holomorphy}}{\overset{\text{last semester}}{\rightleftarrows}} \text{domain of existence}$$

domain of existence $\Downarrow$ domain of holomorphy

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

not presheaf!
not super presheaf!

I prefer spscv...

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