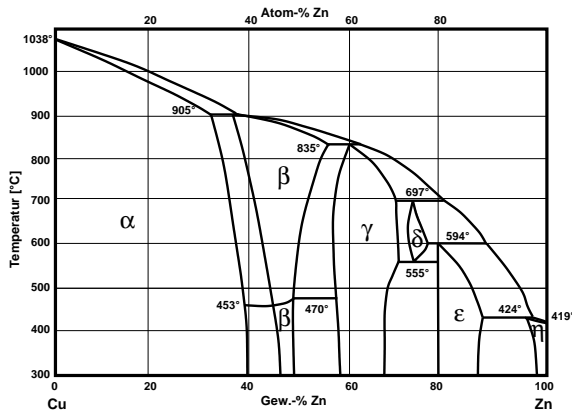
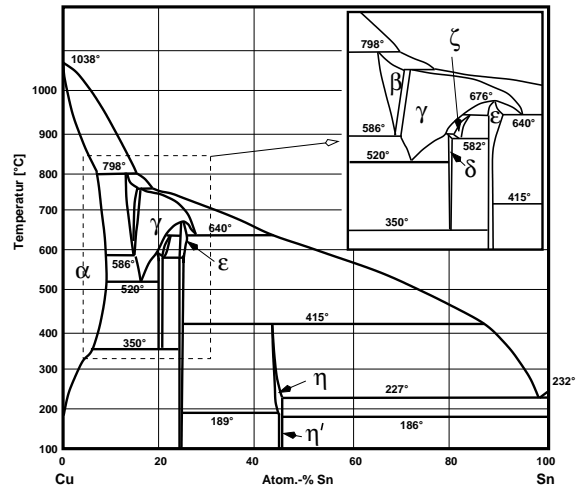


### 4. Hume-Rothery-Phasen (A2-B1)

#### 4.1. Vorkommen, Phasenbeziehungen



Phasendiagramm Cu-Zn (Messing)

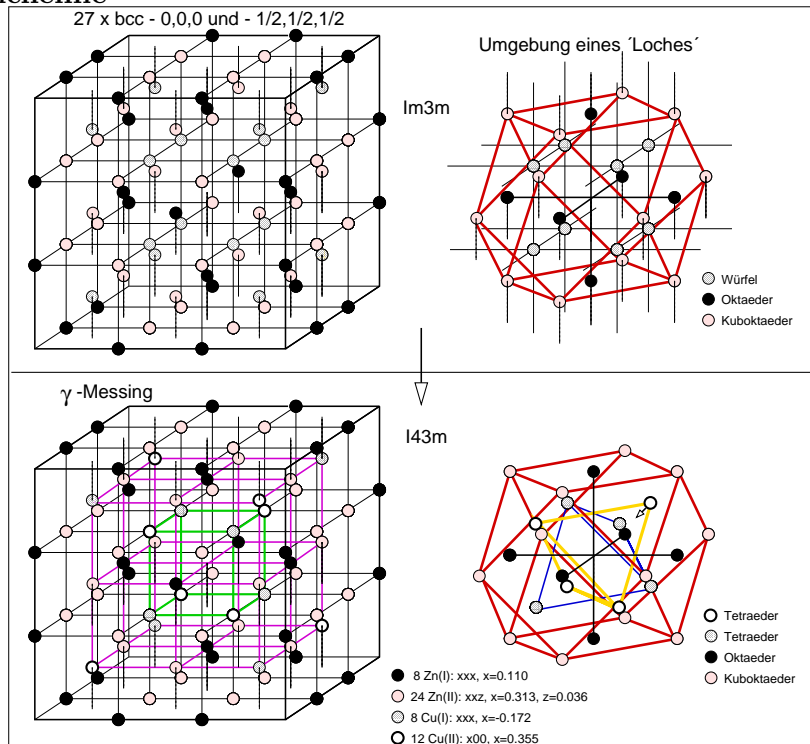


Phasendiagramm Cu-Sn (Bronze)

	$\alpha$ -Phase	$\beta$ -Phase	$\gamma$ -Phase	$\epsilon$ -Phase
Struktur	fcc	bcc	kompl. kubisch (s.u.)	hcp
VEC (n. Hume-Rothery)	-	$\frac{3}{2} = \frac{21}{14} = 1.5$	$\frac{21}{13} = 1.615$	$\frac{7}{4} = 1.75$
Maximale Löslichkeit	1.362	1.48	1.538	
Experimentelle Werte				
Cu-Zn	1.284	CuZn (1.48)	Cu <sub>5</sub> Zn <sub>8</sub> (1.58-1.66)	CuZn <sub>3</sub>
Cu-Sn	1.270	Cu <sub>5</sub> Sn (1.49)	Cu <sub>31</sub> Sn <sub>8</sub> (1.67)	Cu <sub>3</sub> Sn
Cu-Al	1.408	Cu <sub>3</sub> Al (1.48)	Cu <sub>9</sub> Al <sub>4</sub> (1.62-1.77)	-
Co-Zn		CoZn <sub>3</sub>	Co <sub>5</sub> Zn <sub>21</sub>	-
Cu-In		Cu <sub>3</sub> In	Cu <sub>9</sub> In <sub>4</sub>	-
Rh-Zn		-	Rh <sub>5</sub> Zn <sub>21</sub>	-

Hume-Rothery-Phasen nach chemischen Systemen

#### 4.2. Kristallchemie



Struktur von  $\gamma$ -Messing