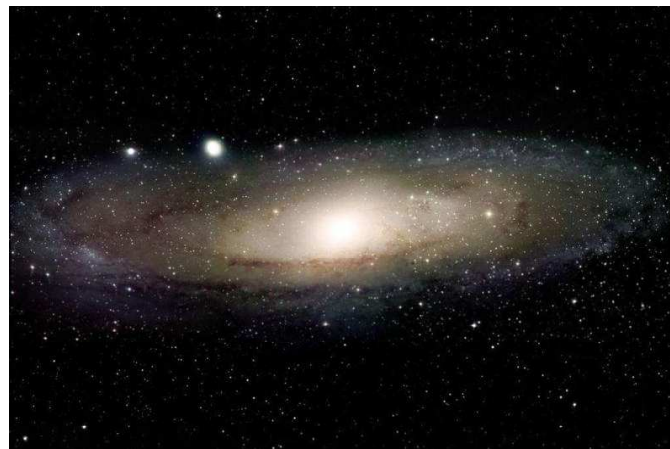
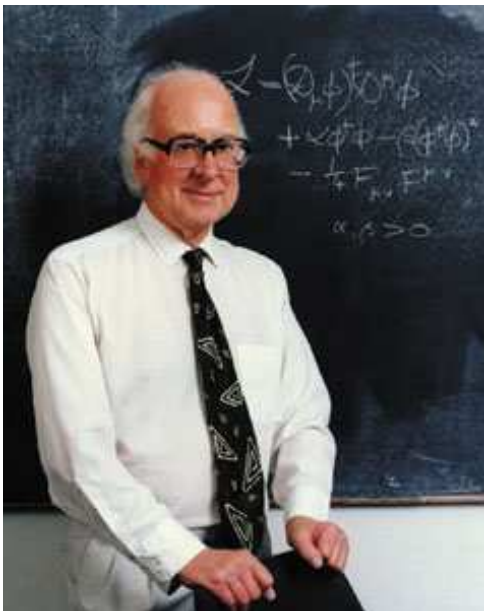


Teil 7: Offene Fragen der Teilchenphysik



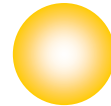
Standardmodell 2008



Elektron



Myon



Tauon



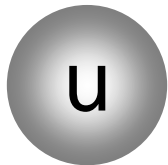
e-Neutrino



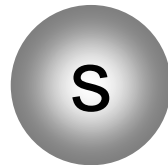
μ -Neutrino



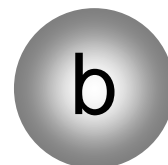
τ -Neutrino



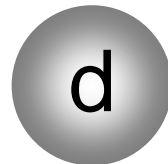
up-Quark



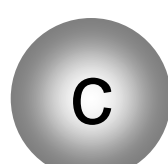
strange-Quark



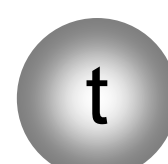
bottom-Quark



down-Quark



charm-Quark



top-Quark



Photon



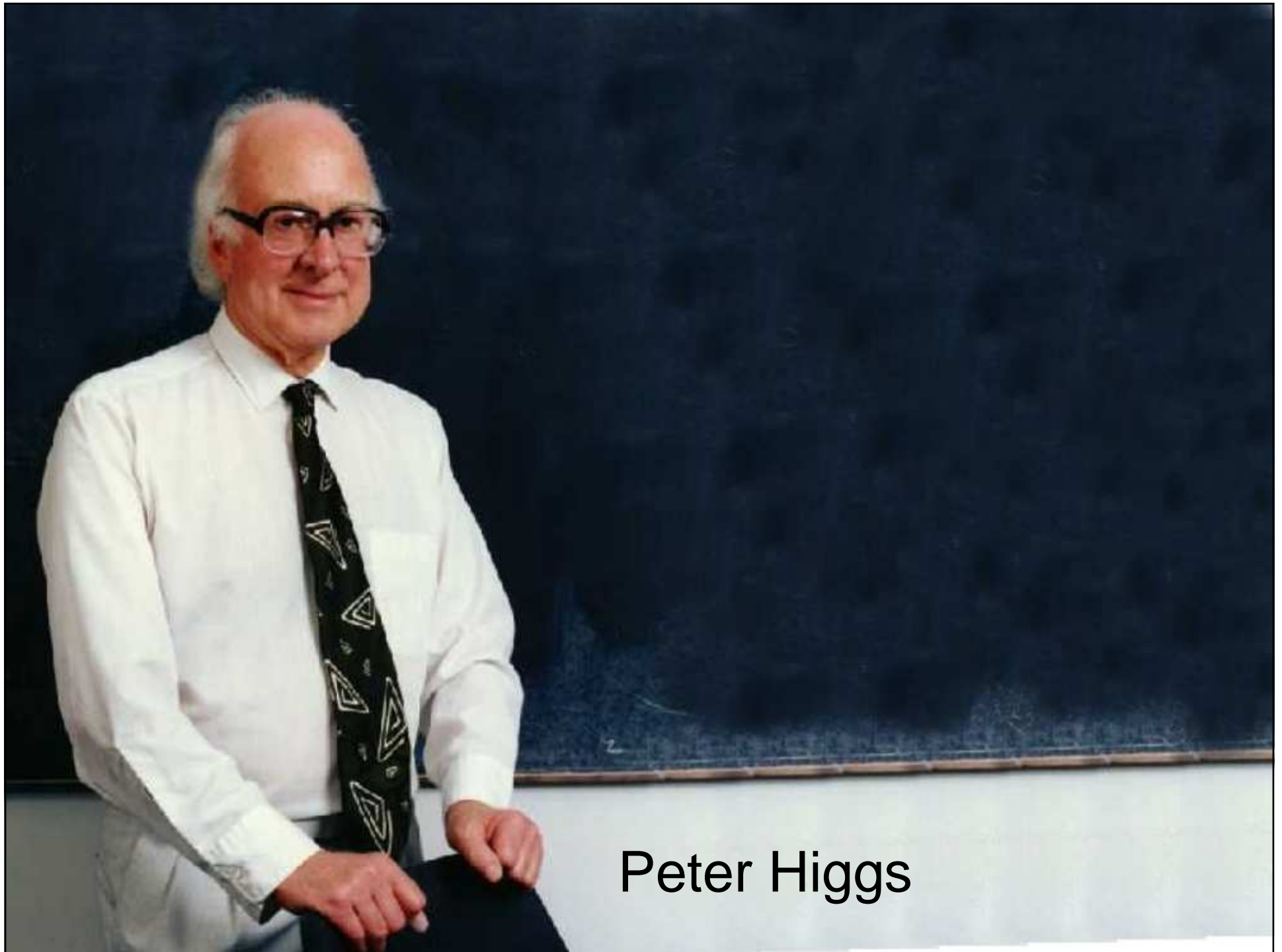
Gluon



W-Boson



Z-Boson



Peter Higgs



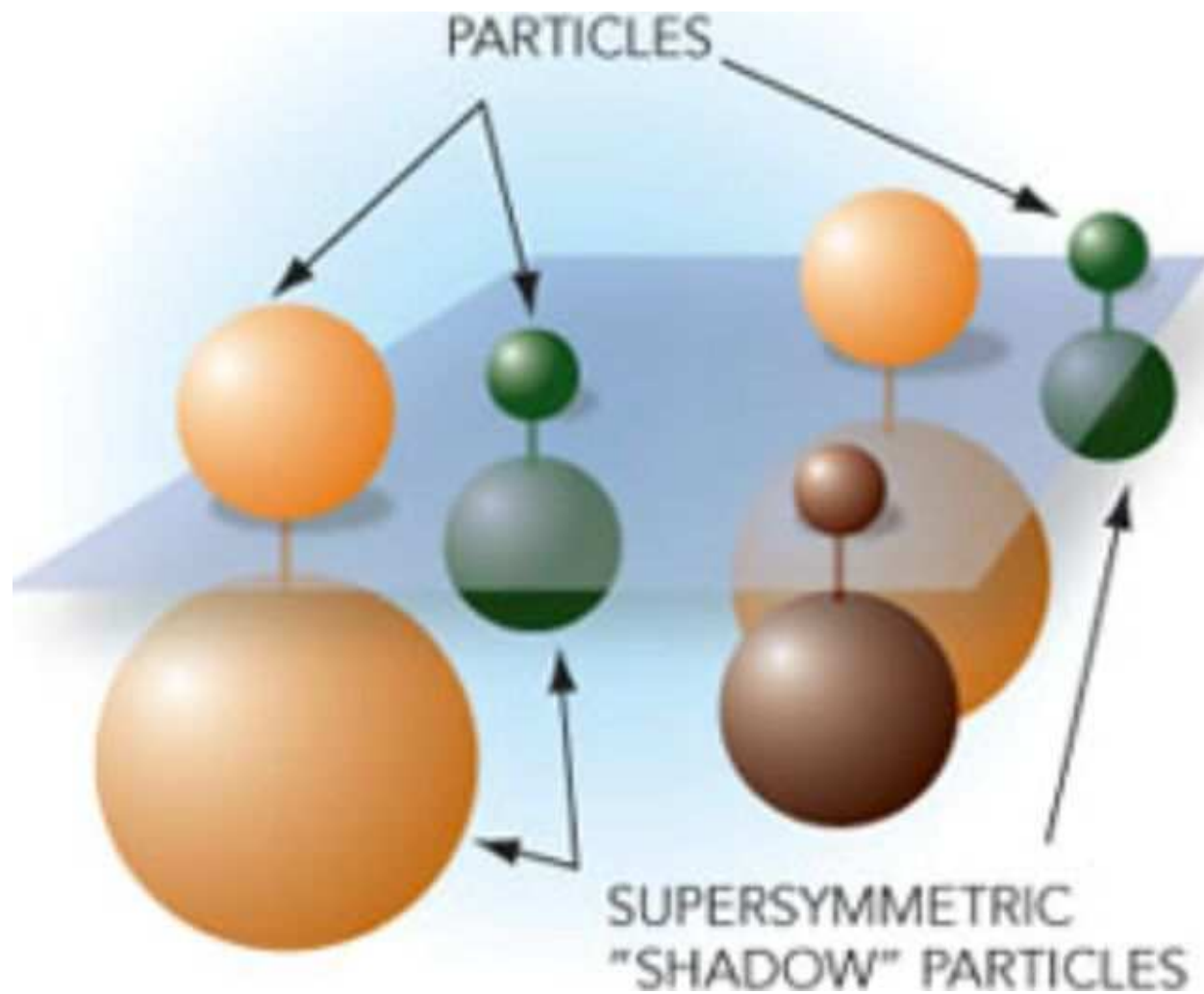




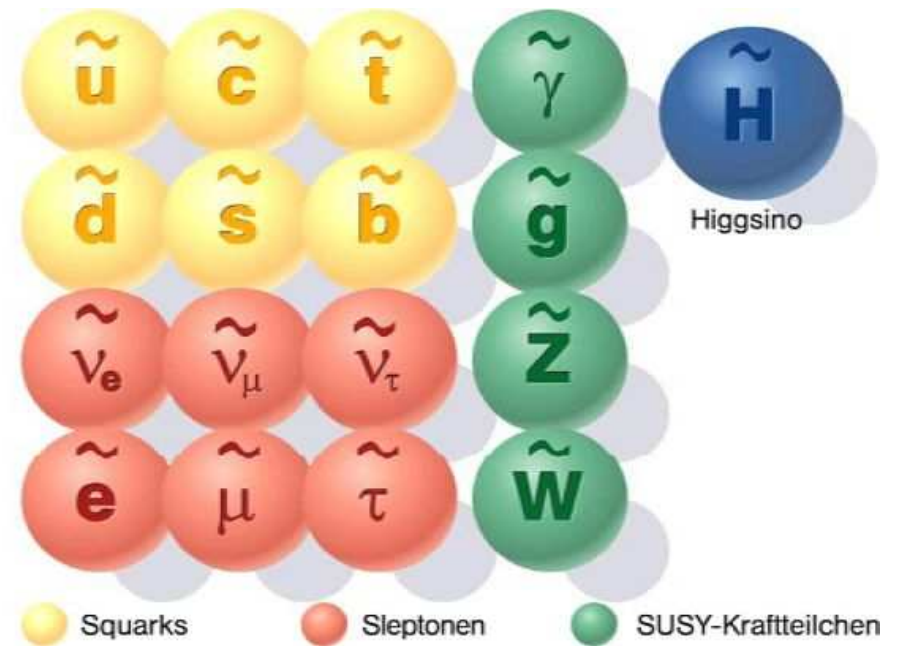
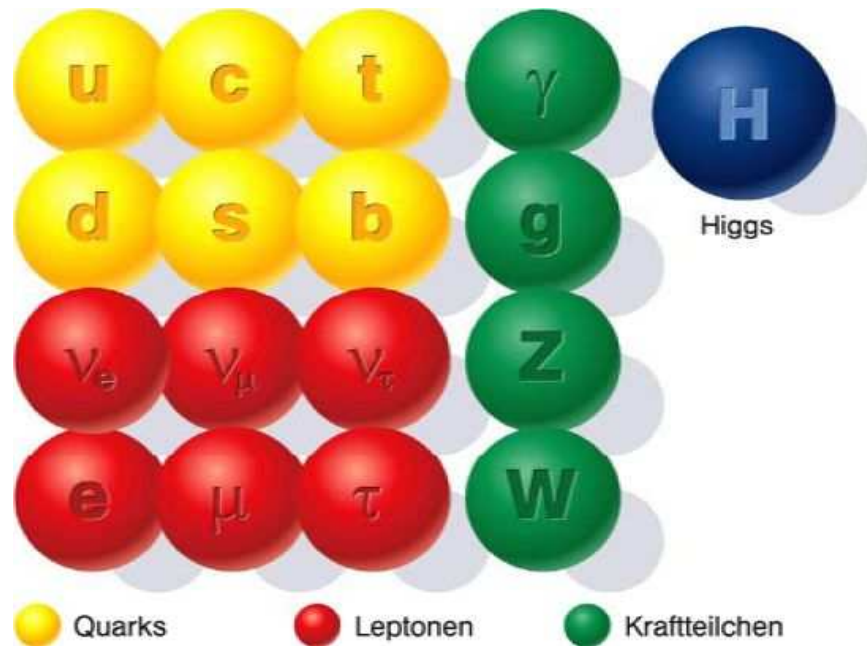




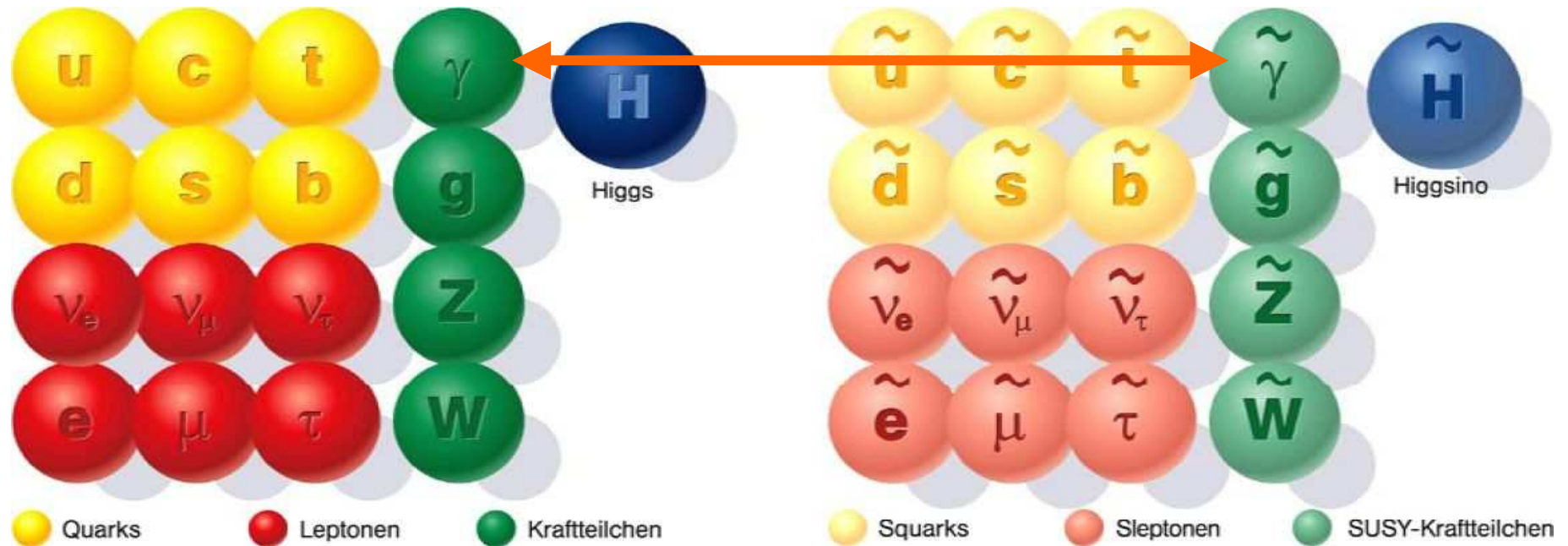
Supersymmetrie



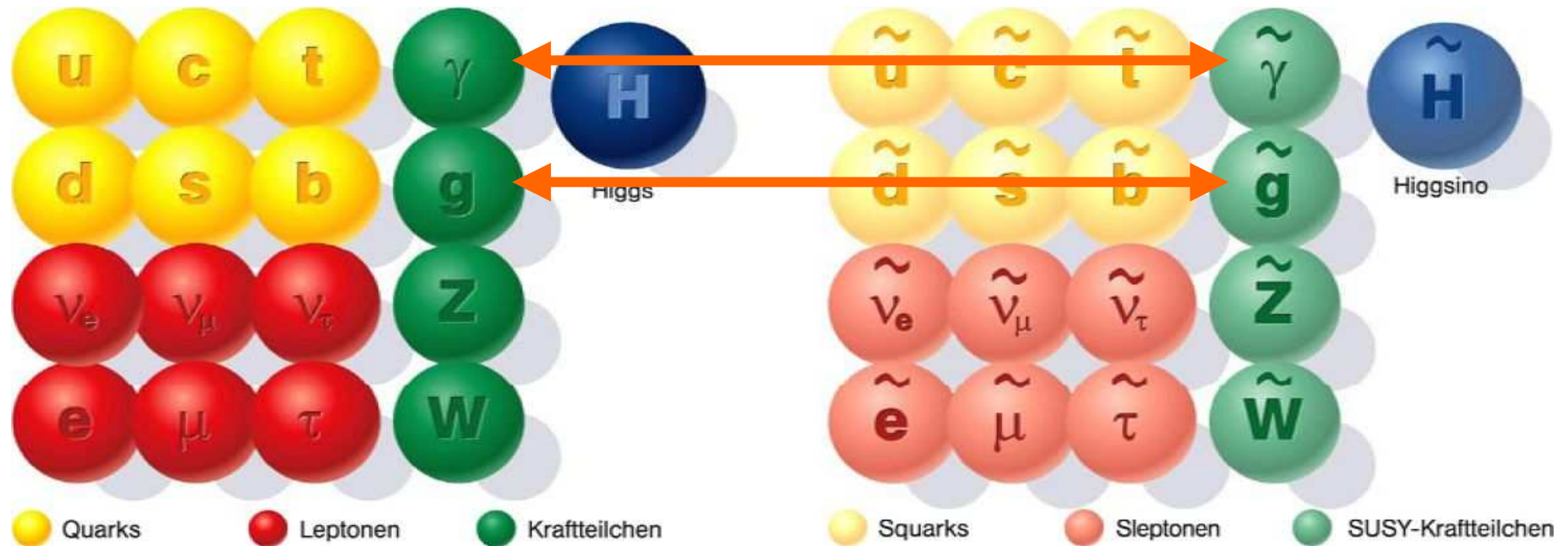
Supersymmetrie



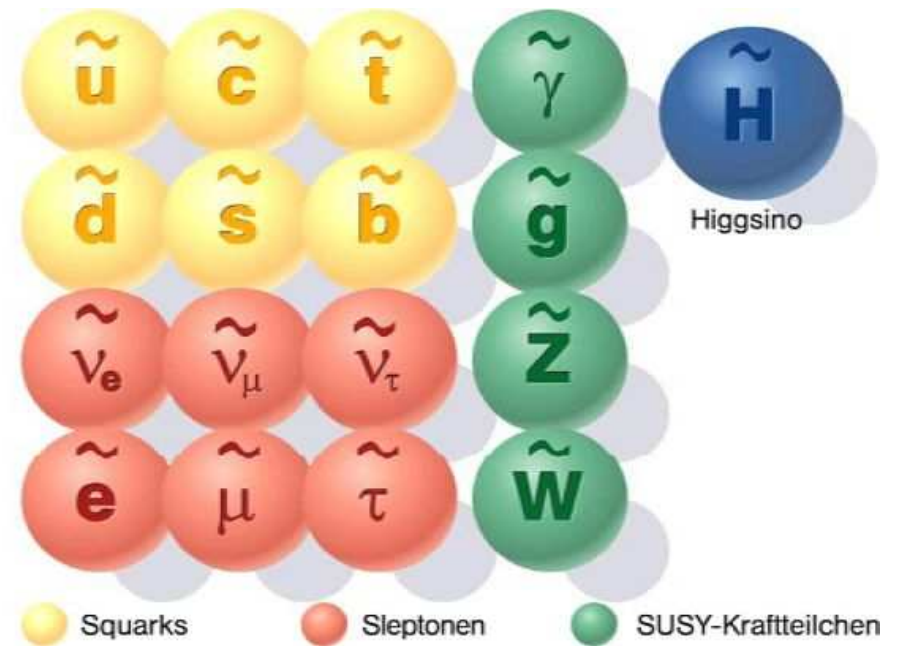
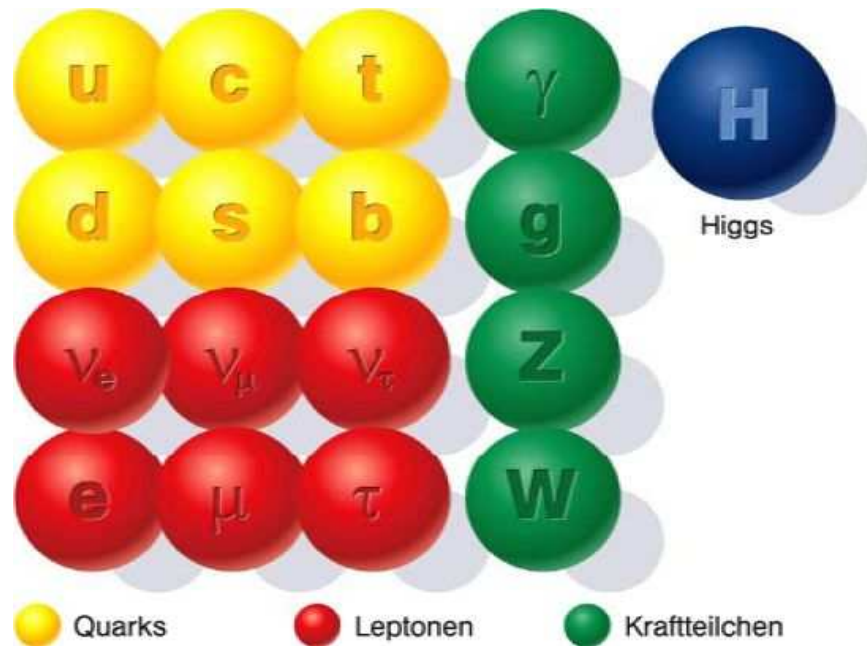
Supersymmetrie



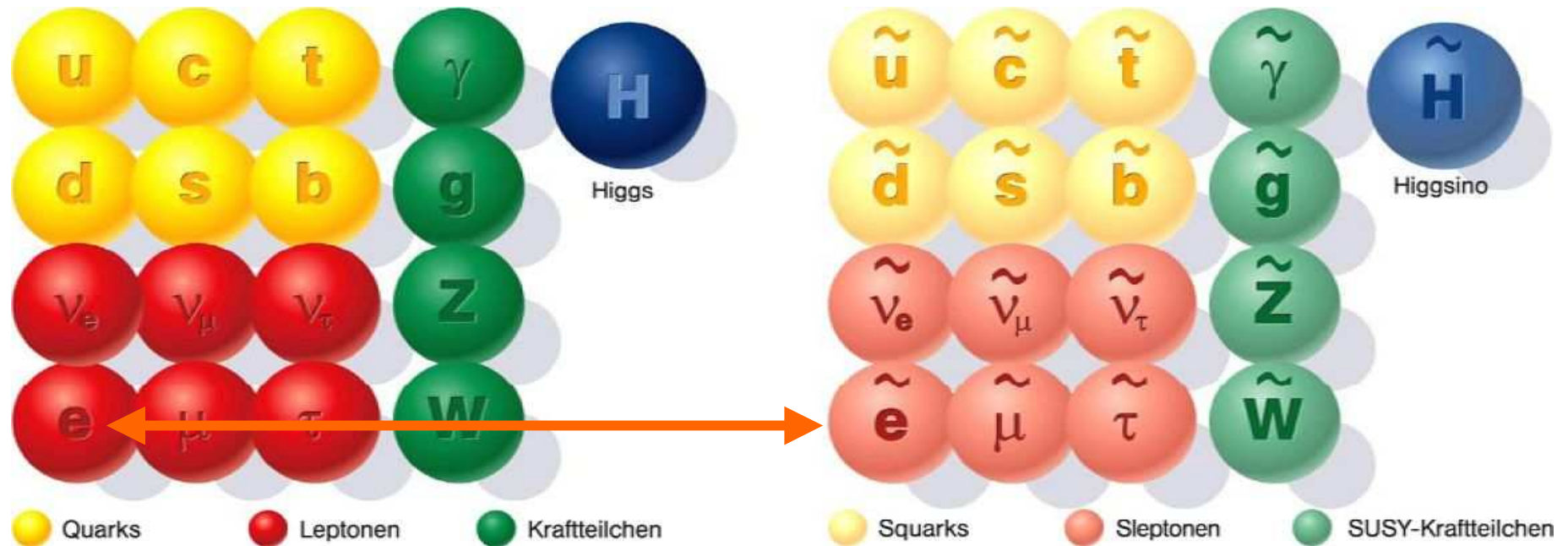
Supersymmetrie



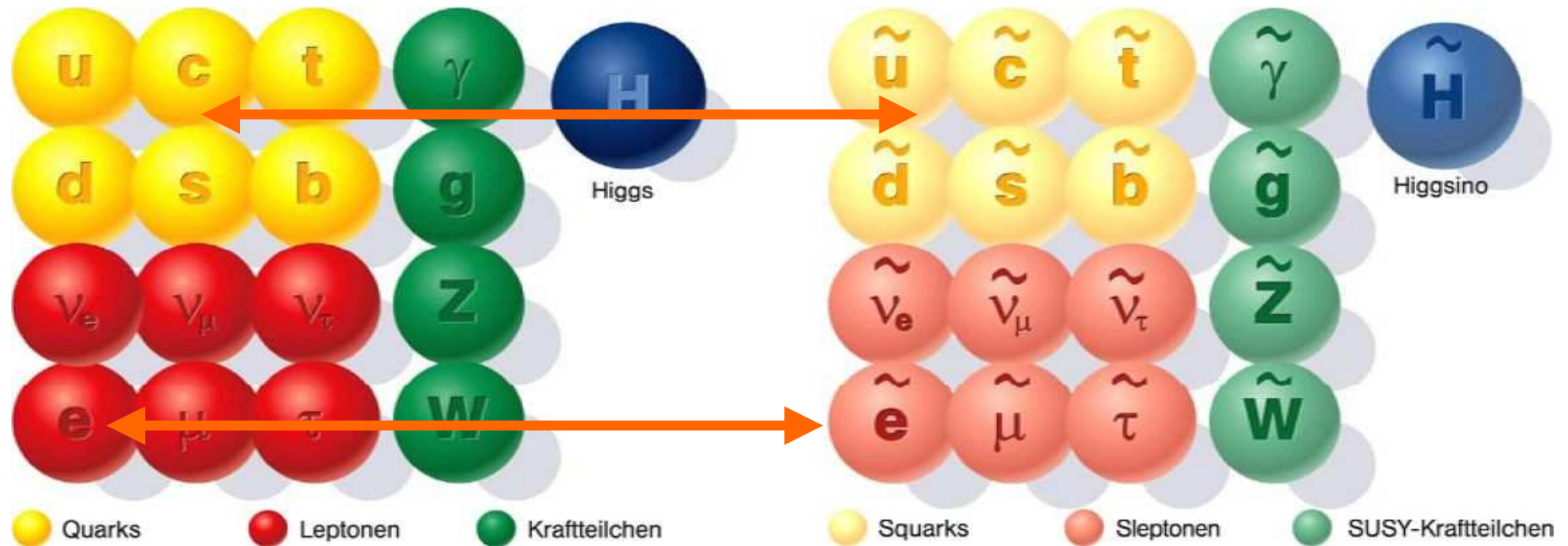
Supersymmetrie



Supersymmetrie

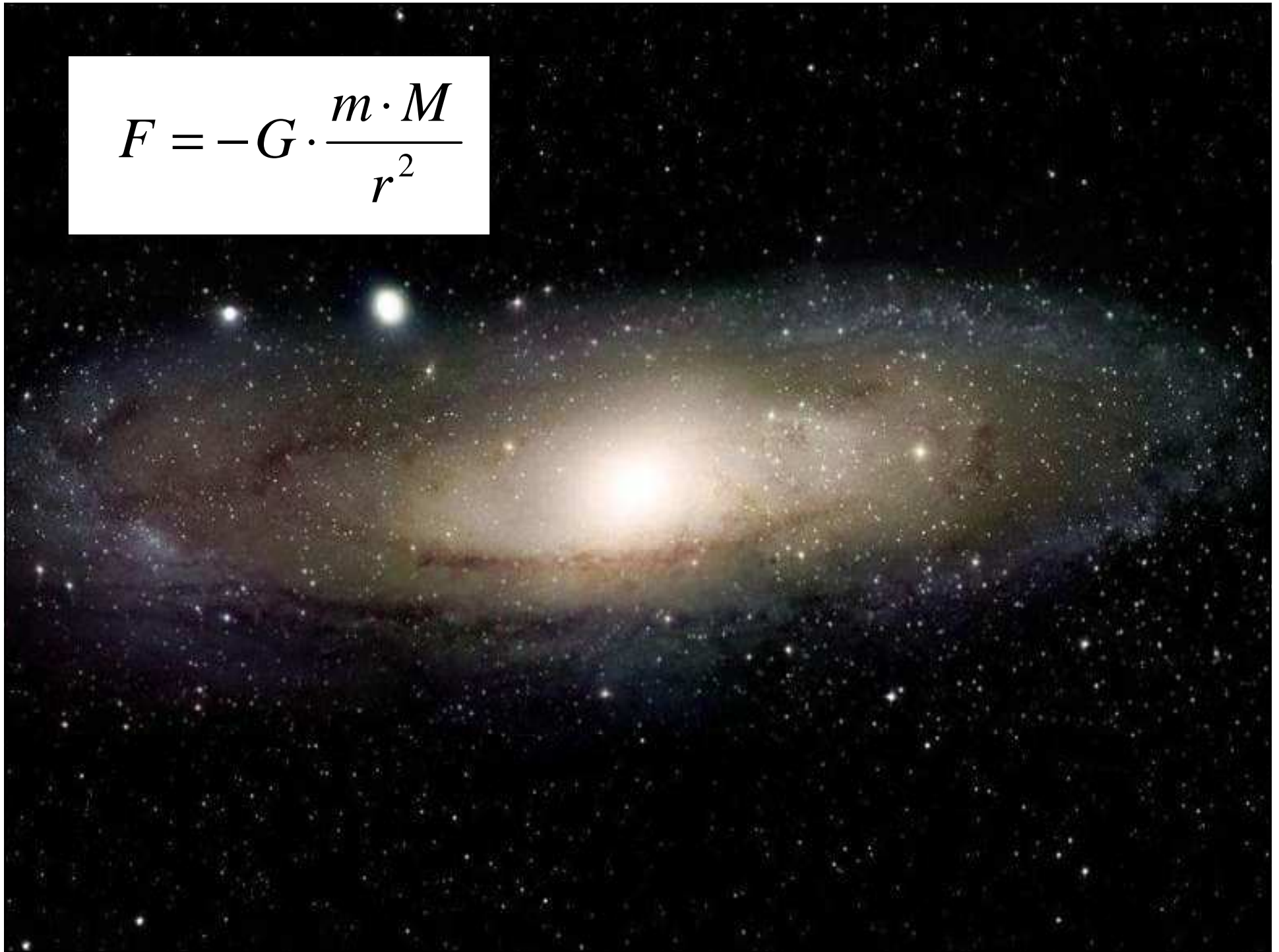


Supersymmetrie



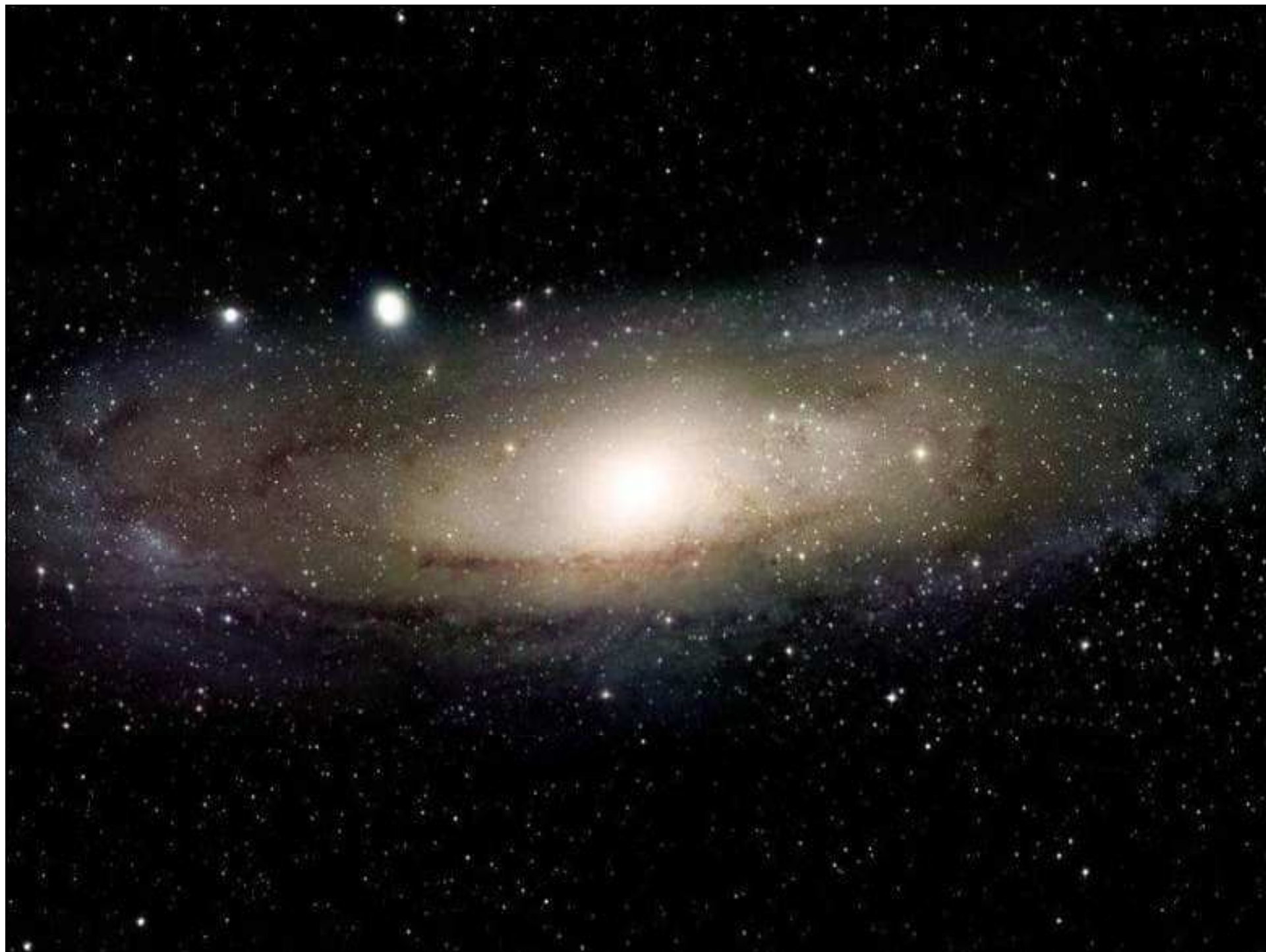


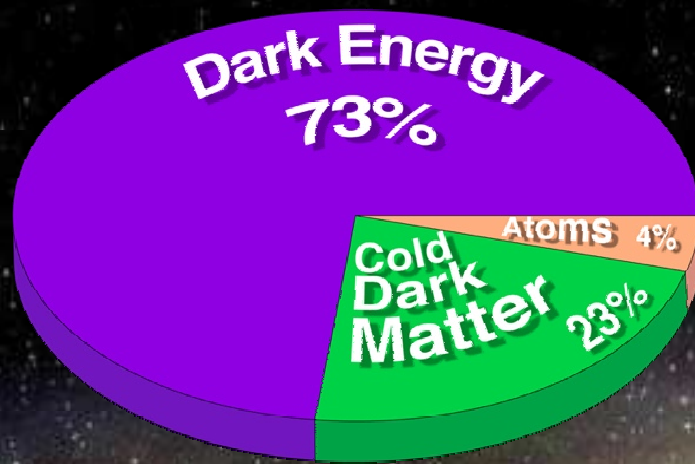
$$F = -G \cdot \frac{m \cdot M}{r^2}$$



$$F = -G \cdot \frac{m \cdot M}{r^2}$$

„Dunkle
Materie“

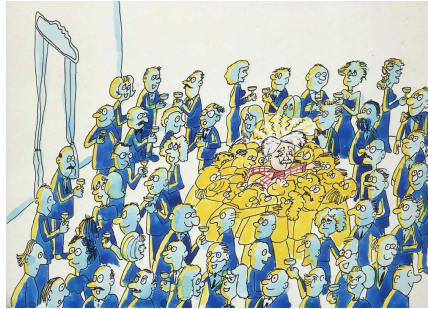




Offene Fragen



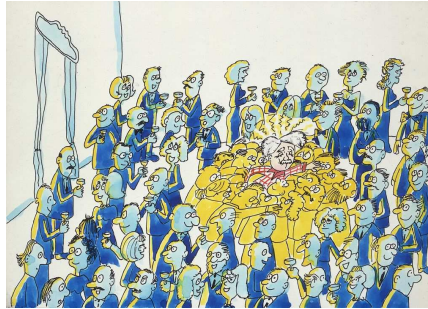
- Higgs-Teilchen



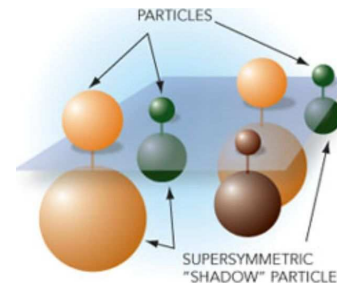
Offene Fragen



- Higgs-Teilchen



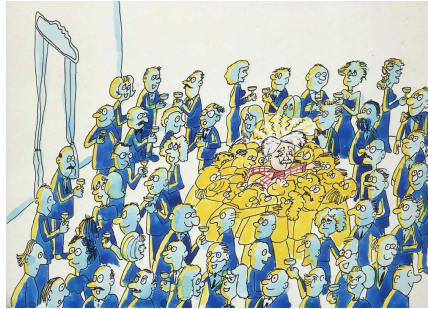
- Supersymmetrie



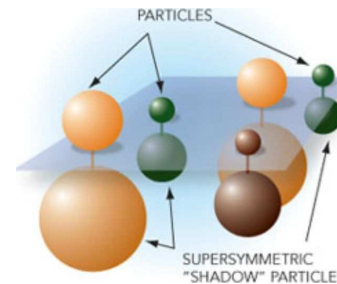
Offene Fragen



- Higgs-Teilchen



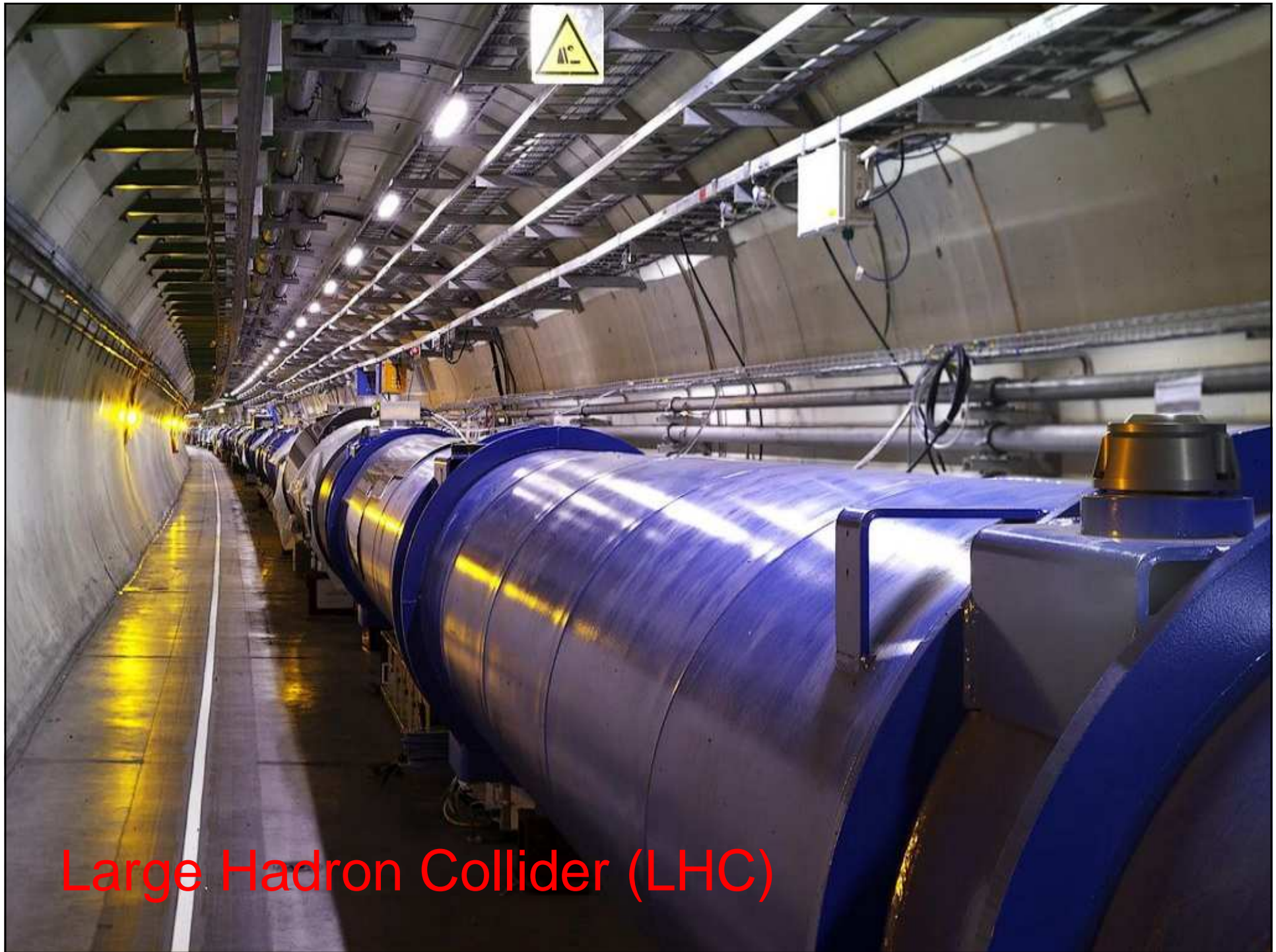
- Supersymmetrie



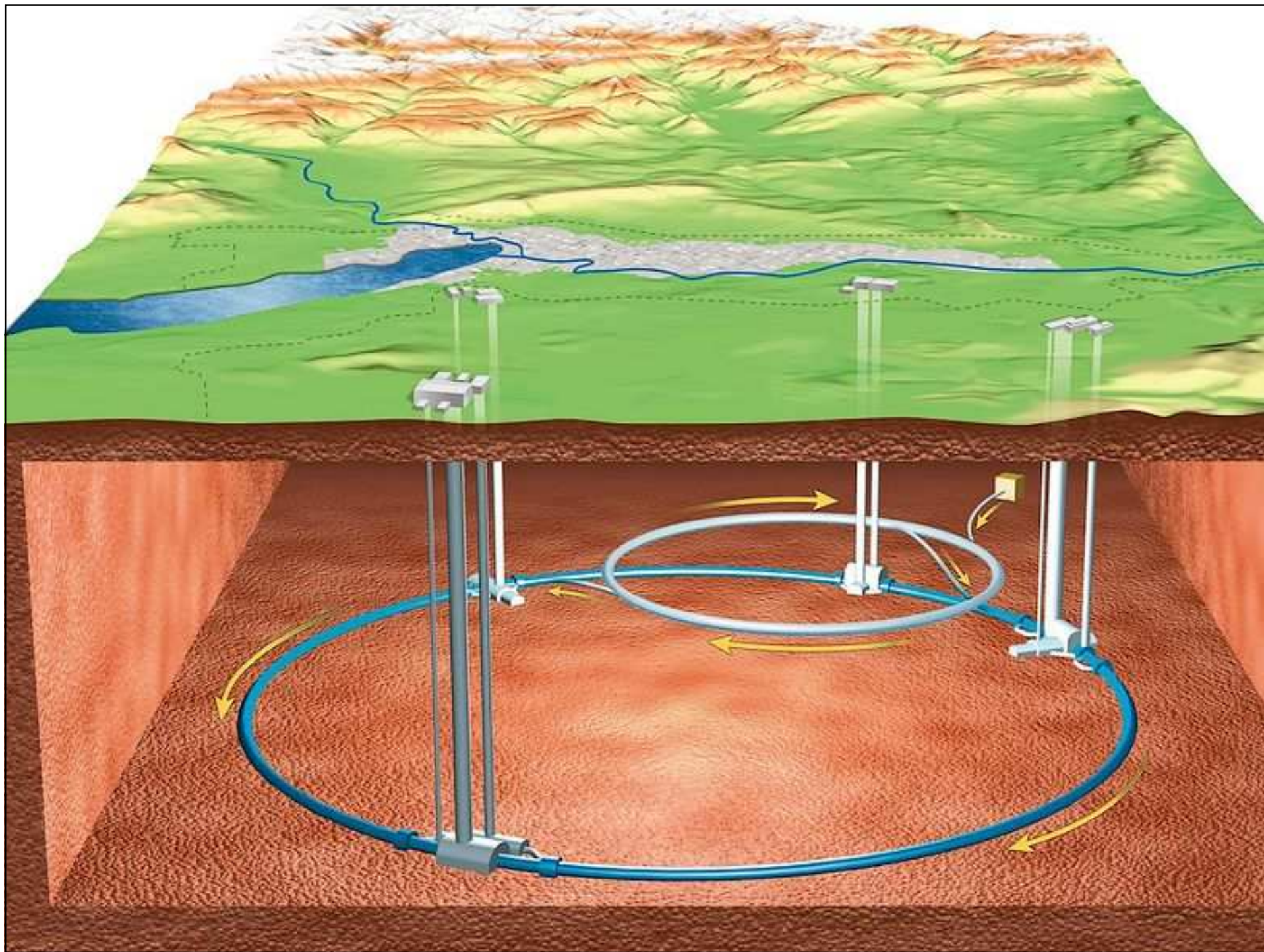
- Dunkle Materie / dunkle Energie



■ ...



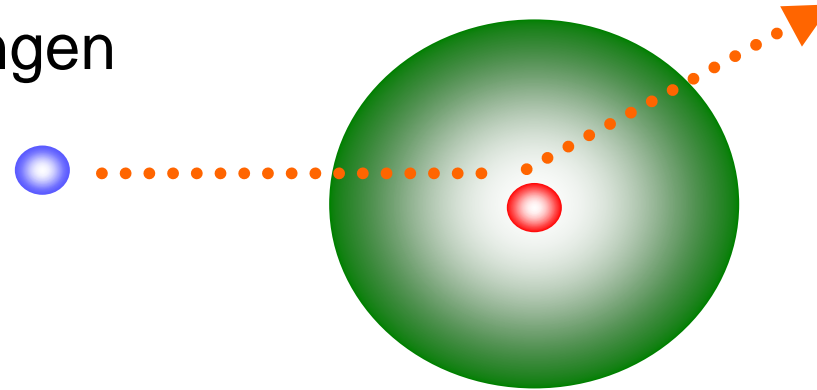
Large Hadron Collider (LHC)



Standardmodell 1948



- Elastische Streuung
→ Strukturuntersuchungen



- Inelastische Streuung
→ Erzeugung neuer Teilchen

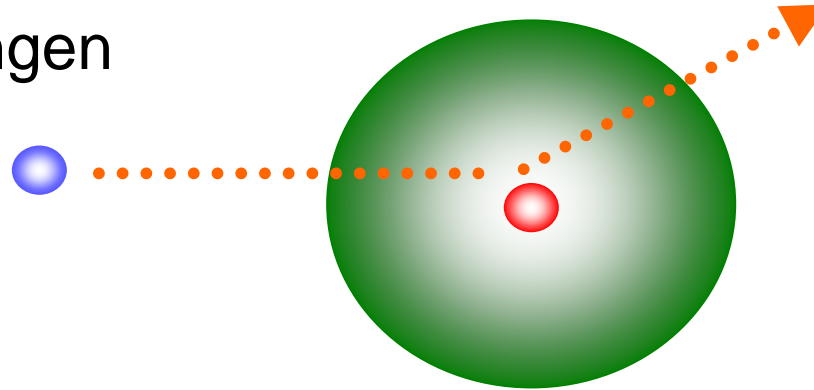


Standardmodell 1948



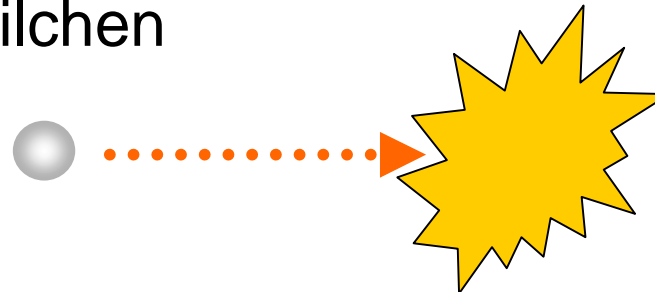
- Elastische Streuung

➔ Strukturuntersuchungen



- Inelastische Streuung

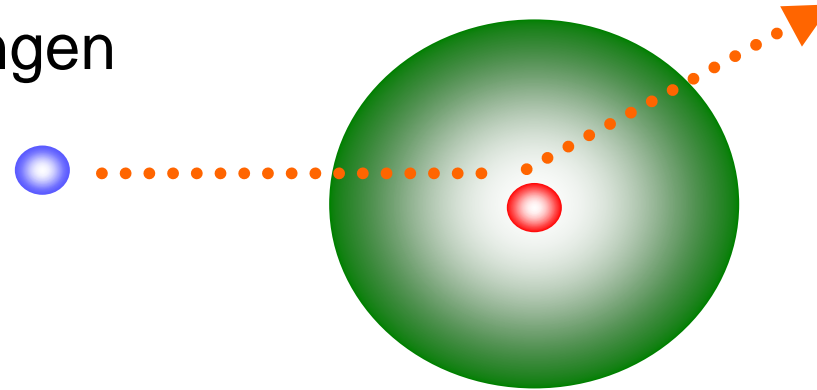
➔ Erzeugung neuer Teilchen



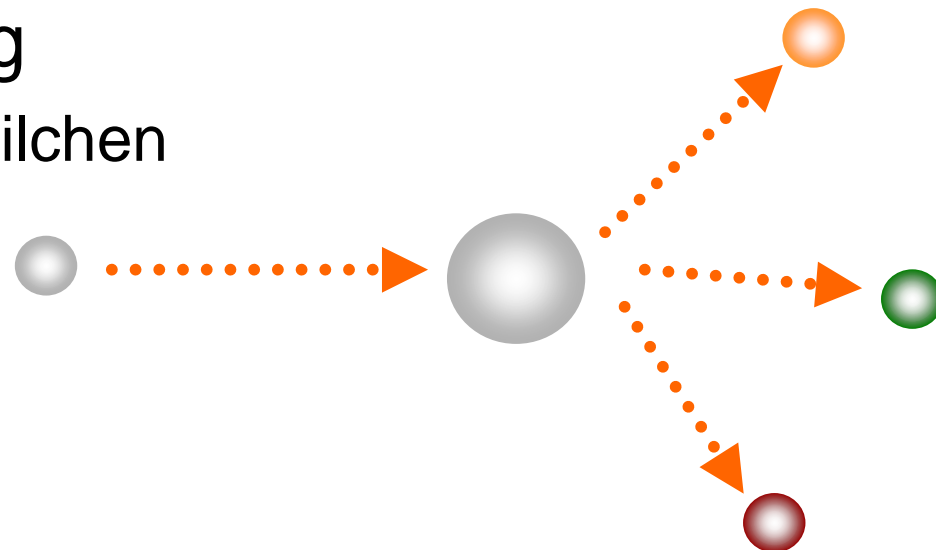
Standardmodell 1948



- Elastische Streuung
→ Strukturuntersuchungen



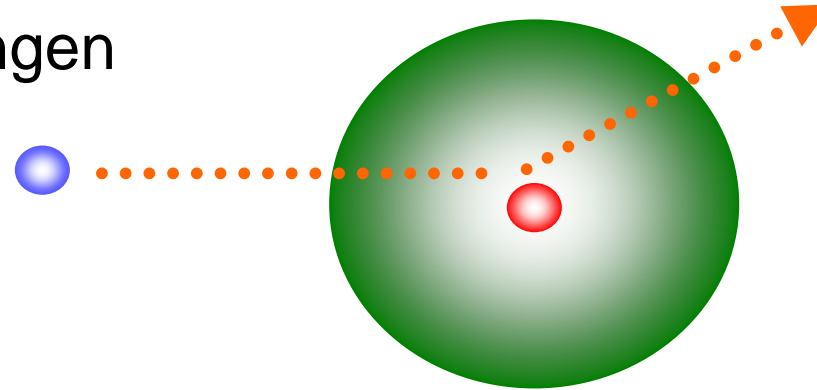
- Inelastische Streuung
→ Erzeugung neuer Teilchen



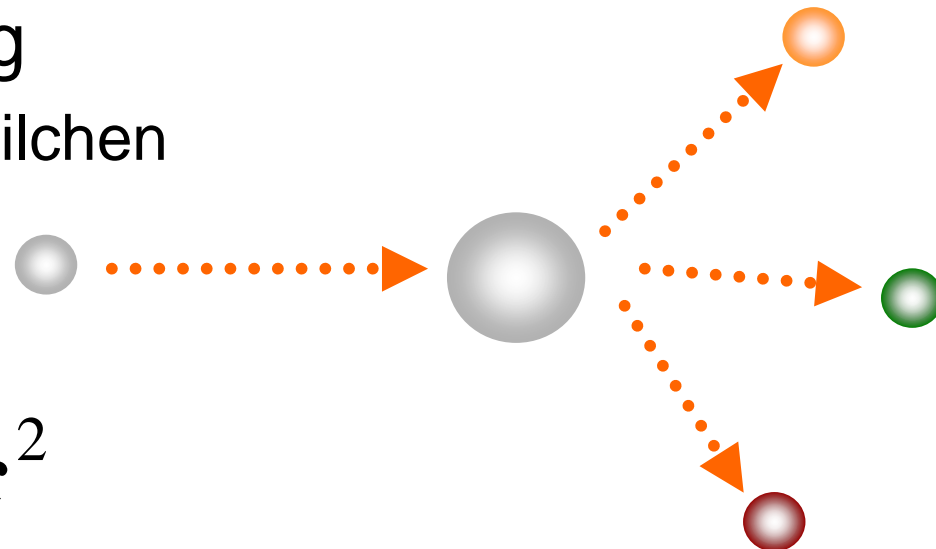
Standardmodell 1948



- Elastische Streuung
→ Strukturuntersuchungen



- Inelastische Streuung
→ Erzeugung neuer Teilchen



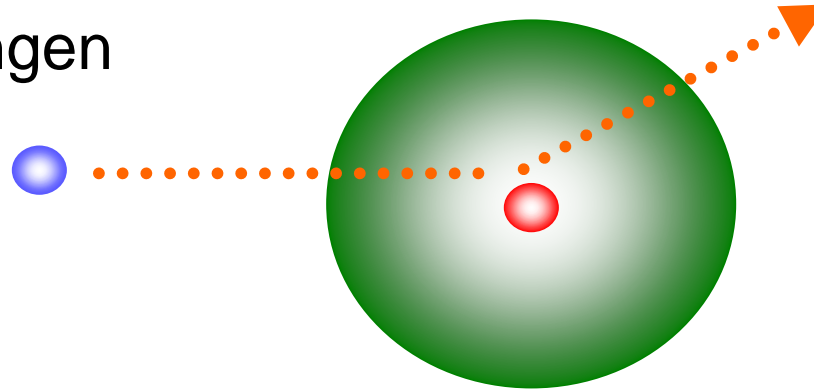
$$E = m \cdot c^2$$

Standardmodell 1948



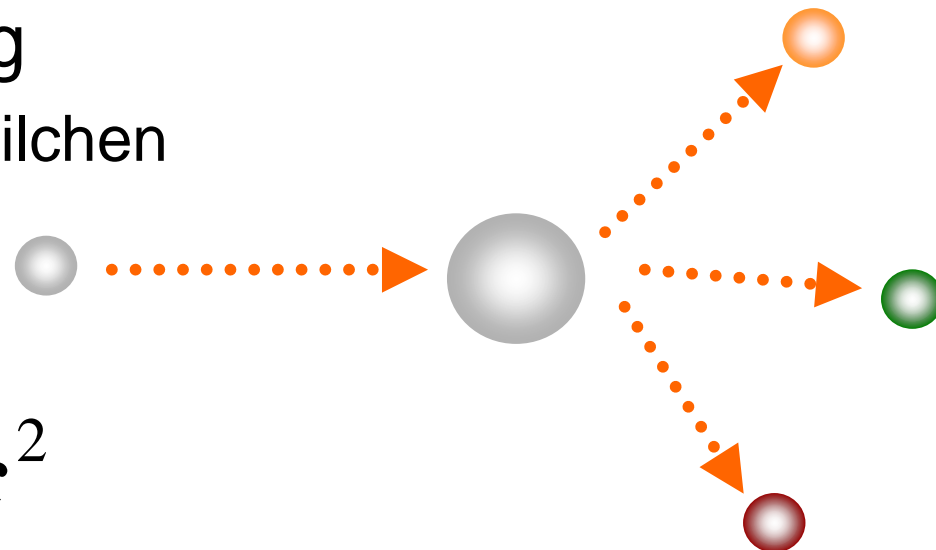
- Elastische Streuung

→ Strukturuntersuchungen



- Inelastische Streuung

→ Erzeugung neuer Teilchen

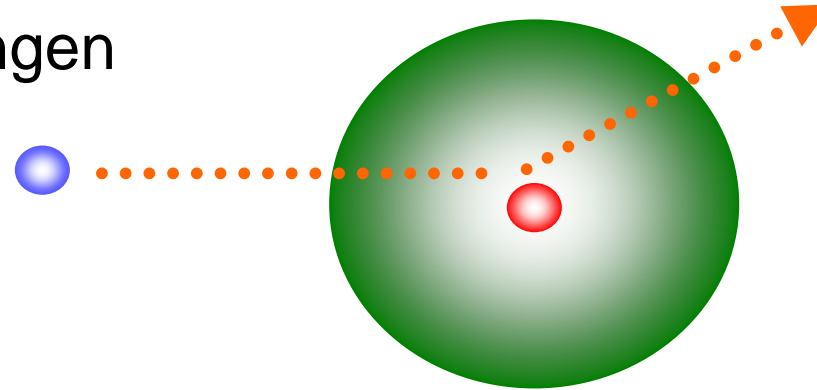


$$E = m \cdot c^2$$

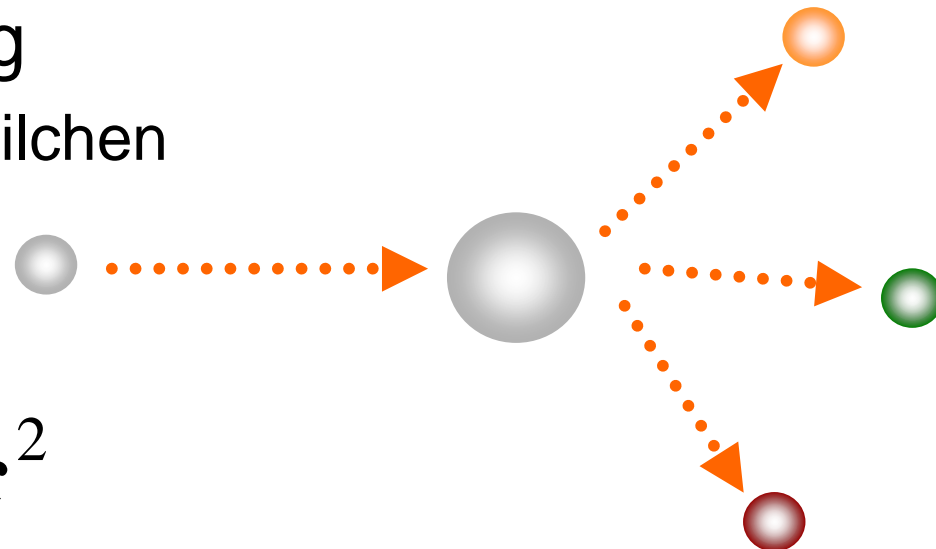
Standardmodell 1948



- Elastische Streuung
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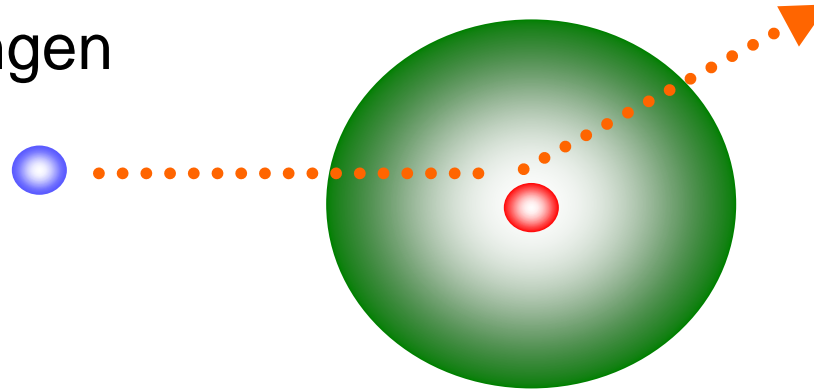


$$E = m \cdot c^2$$

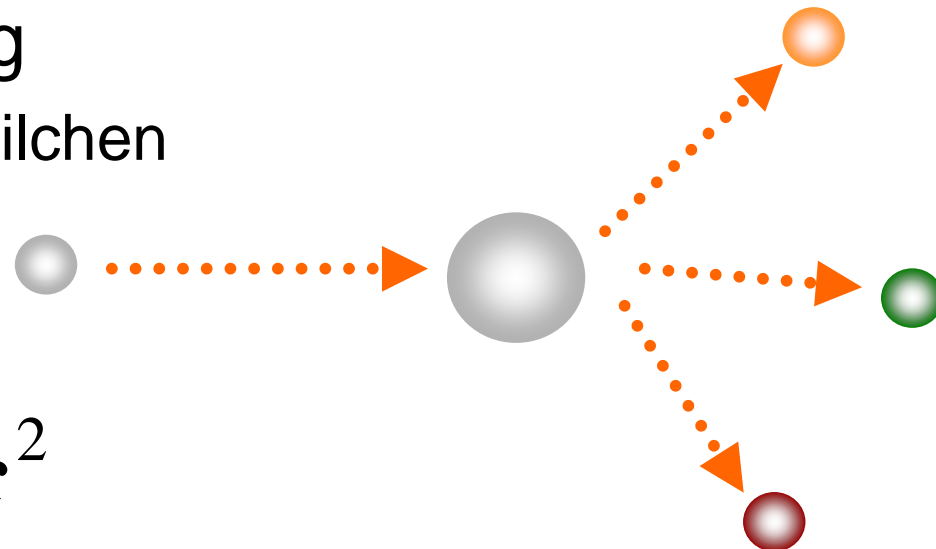
Standardmodell 1948



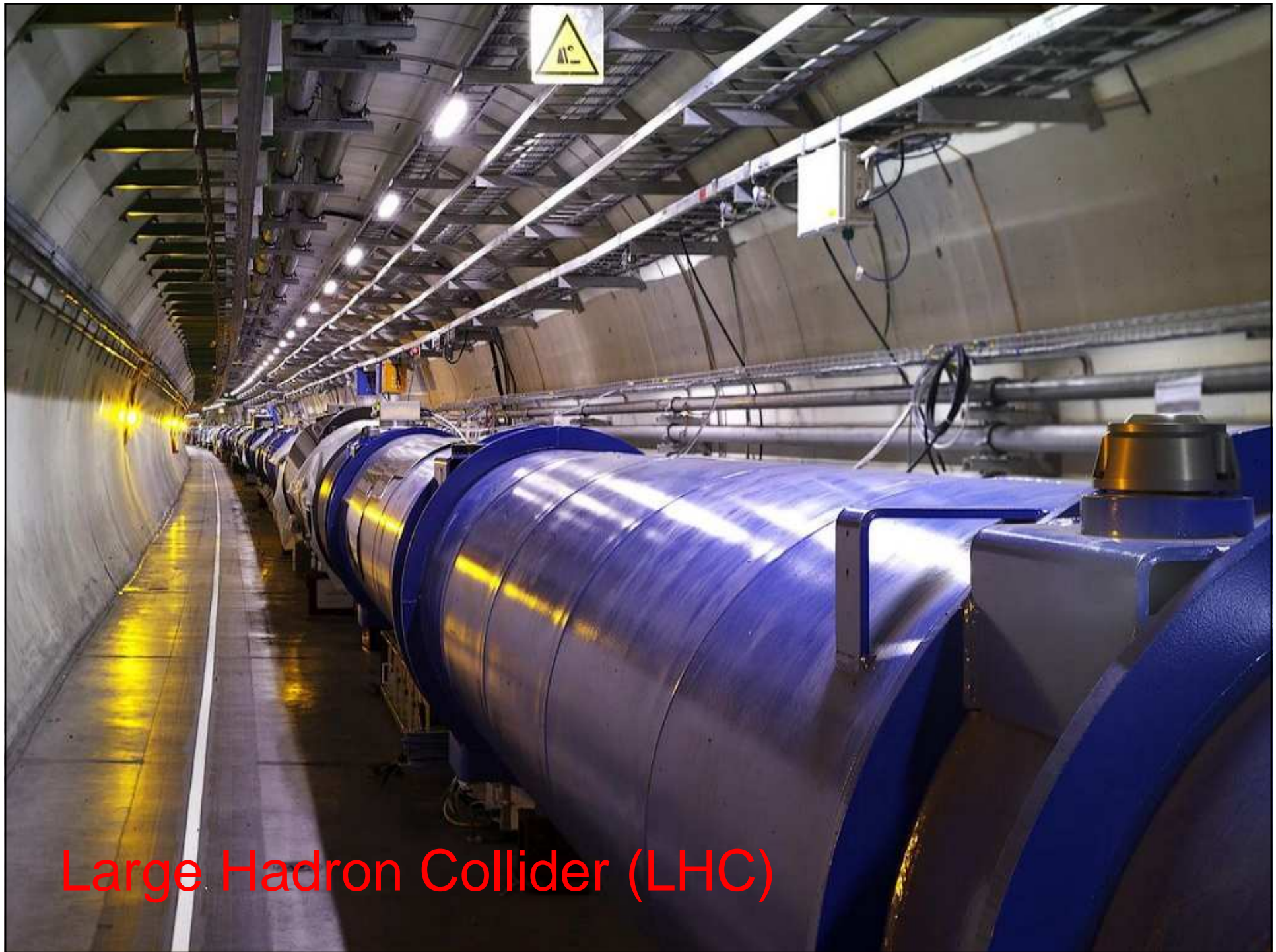
- Elastische Streuung
→ Strukturuntersuchungen



- Inelastische Streuung
→ Erzeugung neuer Teilchen



$$E = m \cdot c^2$$



Large Hadron Collider (LHC)