

S. 306 Nr. 2

$$E: 2x_1 + 2x_2 - x_3 = 6$$

$$F: 6x_1 + 9x_2 + 2x_3 = -22$$

$$x_1\text{-Achse: } P(a_1 | 0 | 0)$$

HNF₁

$$\left| \frac{2a_1 + 0 - 0 - 6}{\sqrt{2^2 + 2^2 + (-1)^2}} \right| = d$$

$$\left| \frac{2a_1 - 6}{\sqrt{9}} \right| = d$$

$$\left| \frac{2a_1 - 6}{3} \right| = \left| \frac{6a_1 + 22}{11} \right|$$

$$1) \quad \frac{2a_1 - 6}{3} = \frac{6a_1 + 22}{11} \quad | \cdot 33$$

$$22a_1 - 66 = 18a_1 + 66 \quad | +66 - 18a_1$$

$$4a_1 = 132 \quad | :4$$

$$a_1 = 33$$

$$P_1(33 | 0 | 0)$$

$$2) \quad \frac{-2a_1 + 6}{3} = \frac{6a_1 + 22}{11} \quad | \cdot 33$$

$$-22a_1 + 66 = 18a_1 + 66 \quad | -66 - 18a_1$$

$$-40a_1 = 0 \quad | :(-40)$$

$$a_1 = 0$$

$$P_2(0 | 0 | 0)$$

HNF₂

$$\left| \frac{6a_1 + 0 + 0 + 22}{\sqrt{6^2 + 9^2 + 2^2}} \right| = d$$

$$\left| \frac{6a_1 + 22}{\sqrt{121}} \right| = d$$