

## Werk

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**Corollary 2.** *Let  $M$  be a surface in  $E^4$  with the properties (i), (ii) and (iv) of Theorem 2. Let*

(iii)  $4(H - 4K)K \geq \langle \xi_1, \xi_1 \rangle + \langle \xi_2, \xi_2 \rangle > 0$  on  $M$ .

*Then  $M$  is a part of a 2-dimensional sphere in  $E^4$ .*

**Proof.** Choose again a field of orthonormal frames of  $M$  in such a way that  $V_1 = v_1, V_2 = v_2$ . Then (27) and (38) imply

$$\langle \xi_1, \xi_1 \rangle = (\alpha_1 + \gamma_1)^2 + (\alpha_2 + \gamma_2)^2 = \frac{1}{4}H^{-1}H_1^2,$$

$$\langle \xi_2, \xi_2 \rangle = (\beta_1 + \delta_1)^2 + (\beta_2 + \delta_2)^2 = \frac{1}{4}H^{-1}H_2^2$$

and hence

$$\langle \xi_1, \xi_1 \rangle + \langle \xi_2, \xi_2 \rangle = \frac{1}{4}H^{-1}(H_1^2 + H_2^2).$$

Thus (iii) and Theorem 2 prove our assertion.

#### References

- [1] *A. Švec*: Contributions to the global differential geometry of surfaces. *Rozprawy ČSAV* 1, 87, 1977, p. 1–94.
- [2] *K. Svoboda*: Some global characterizations of the sphere in  $E^4$ . *Čas. pro pěst. matem.* 103 (1978), p. 391–399.

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