Technical Comments

Comments on "A New Guidance System Figure-of-Merit"

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IN the subject Note,[1] a triangular eigenvalue phase plane is used effectively. It is not a common representation, but for some problems it is an ideal one. I would like to suggest a generic name for this triangle, based on historical usage. The first application of which I am aware is that of Prof. Dr.-Ing. Kurt Magnus.[2,3] In his work the eigenvalues were specifically principal moments of inertia, but the idea is exactly the same. Indeed, with normalization to the trace of the inertia matrix, the diagram is exactly as in Fig. 1a of the present reference.

Accordingly, I propose the name "Magnus triangle" for this triangular phase space of eigenvalues. If any readers know of earlier usages, their comments will be appreciated.

References

[1] G. R. Young, "A New Guidance System Figure-of-Merit," *Journal of Spacecraft and Rockets*, Vol. 8, No. 10, Oct. 1971, pp. 1103–1104.

[2] K. Magnus, "Drehbewegungen starrer Körper im zentralen Schwerefeld," *Proceedings of the 11th Congress of Applied Mechanics*, Springer-Verlag, Berlin, 1965, pp. 88–98.

[3] K. Magnus, "Die Stabilität partikulärer Drehbewegungen von Satelliten beliebiger Form auf einer Kreisbahn," *Ingenieur-Archiv*. Vol. 34, 1965, pp. 129–138.

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Reply by Author to R. E. Roberson

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I DO not take exception with what R. E. Roberson proposes. In fact, I heartily support any attempt to popularize the use of the triangular eigenvalue phase plane representation. However, I would like to point out the great similarity between this representation and that of Ref. 1 (p. 17). In this work on information theory, Brillouin uses a triangular probability phase plane (defined by $p_1 + p_2 + p_3 = 1$) as the basis on which to define information. Brillouin goes one step further and points out that since only two of the probabilities can be considered to be independent, the diagram can be represented in two dimensions. The same statement applies equally well to the triangular eigenvalue phase plane.

Reference

[1] Brillouin, L., *Science and Information Theory*, Academic Press, New York, 1956, Chap. 2.

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Errata

Errata: Design of an Astronaut-Operated, Lunar-Surface, Antenna-Aiming Mechanism

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J. Spacecraft Rockets **8**, 1009–1010 (1971)

IN the above paper, the wrong Fig. 3 was published. The correct Fig. 3 is shown below. Also, the caption for the figure which was printed should have read "Relations of the solar azimuth angle and the maximum temperature and diametric temperature difference in the vertically positioned metallic cylinders."

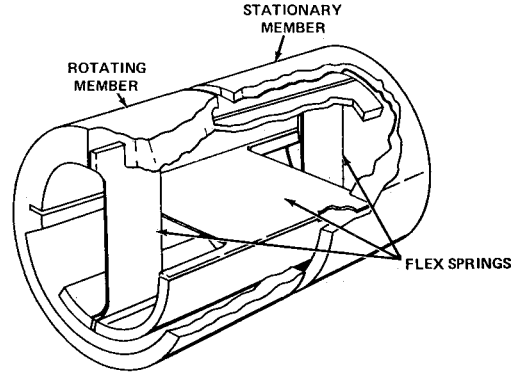

Fig. 3 Frictionless flexural pivot.

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