

CONDITIONAL INFORMATION FOR AN INVERSE GAUSSIAN DISTRIBUTION WITH KNOWN COEFFICIENT OF VARIATION*

KATUOMI HIRANO¹ AND KŌSEI IWASE²

¹*The Institute of Statistical Mathematics, 4-6-7 Minami-Azabu, Minato-ku, Tokyo 106, Japan*

²*Department of Applied Mathematics, Faculty of Engineering, Hiroshima University,
Higashi-Hiroshima 724, Japan*

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Abstract. Conditional inference about a mean of an inverse Gaussian distribution with known coefficient of variation is discussed. For a random sample from the distribution, sufficient statistics with respect to the mean parameter include an ancillary statistic. The effects of conditioning on the ancillary statistic are investigated. It is shown that the model provides a good illustration of R. A. Fisher's recommendation concerning use of the observed second derivative of the log likelihood function in normal approximations.

Key words and phrases: Ancillary statistic, coefficient of variation, conditional inference, inverse Gaussian distribution, sample information.