where ψ is an arbitrary function.

From (5) it is evident that if A_{ij} are defined as the components of the curl of covariant vector, then (2) are necessarily satisfied; but (2) is not a sufficient condition. That this condition is not sufficient was overlooked by me in a recent paper,* and my conclusions in § 5 are not correct. In fact, the skew-symmetric tensor there defined by S_{ij} is given by

$$S_{ij} = \frac{\partial \Gamma^{\alpha}_{\alpha j}}{\partial x^i} - \frac{\partial \Gamma^{\alpha}_{\alpha i}}{\partial x^j},$$

and the functions $\Gamma^{\alpha}_{\alpha i}$ and $\Gamma'^{\alpha}_{\alpha i}$ in two sets of coordinates are in the relation

$$\Gamma'^{\alpha}_{\alpha i} = \Gamma^{\alpha}_{\alpha j} \frac{\partial x^j}{\partial x'^i} + \frac{\partial}{\partial x'^i} \log \Delta,$$

where Δ is the Jacobian of the transformation.

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A NEW GENERALIZATION OF TCHEBYCHEFF'S STATISTICAL INEQUALITY

BY B. H. CAMP

1. *Introduction.* If $f(x)$ is any frequency distribution, and s its standard deviation, the symbol $P(\lambda s)$ may be used to represent the probability that a datum drawn from this distribution will differ from the mean value by as much as λs, numerically. For the solution of various statistical problems it is desirable to have a formula which will measure $P(\lambda s)$ when $f(x)$ is only partially known. A case of practical importance occurs when $f(x)$ represents the distribution of values of a statistical constant determined by sampling from a known distribution, such a constant as, for example, a mean value, or a coefficient of correlation. In such cases it is usually difficult or impossible to find the complete distribution $f(x)$, but quite feasible to find its lower moments. Tchebycheff's well known inequality is: $P(\lambda s) \leqq 1/\lambda^2$. It has been general-

* PROCEEDINGS OF THE NATIONAL ACADEMY, vol. 8 (1922), p. 236.