

Westminster
July 2, 1850

My dear Stokes

As I have not
my paper

the E. J. & M. of
Elastic Solids,

any other

reference for

purpose, by me

be much obliged

now, as a rec-

a parallel

in a very in-
way. It was ready
as in diffraction

Michael Spirak

CALCULUS

ON

MANIFOLDS

on my way from
Cambridge that made
me take up the subject

So you know that the
condition that a density
 γ or γ may be the diff. of

two indep. vari-
for all points of a surface

is $l(\frac{dx}{dz} - \frac{dy}{dz}) + m(\frac{dy}{dz} - \frac{dz}{dz}) + n(\frac{dz}{dz} - \frac{dx}{dz})$
= 0. I made this out some

weeks ago with ref. to el-
magnets. With ref. to

elastic sol. the cond. may
be written - the resultant air

at any point of the
surface must be normal.

Yours very truly

William Thomson

P.S. The following is also interesting,
its importance with reference to
both physical subjects.

$$\int (\alpha dx + \beta dy + \gamma dz) = \pm \int \{ l(\frac{dx}{dz} - \frac{dy}{dz}) + m(\frac{dy}{dz} - \frac{dz}{dz}) + n(\frac{dz}{dz} - \frac{dx}{dz}) \} dS$$

where l, m, n denote the dir. cosines of normal
through any el. d. surface, & the integ.
is taken over the surface.

Resumo de Calculus on Manifolds: A Modern Approach to Classical Theorems of Advanced Calculus

This book uses elementary versions of modern methods found in sophisticated mathematics to discuss portions of "advanced calculus" in which the subtlety of the concepts and methods makes rigor difficult to attain at an elementary level.

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