Write to Hyderabad

PHYSICAL RESEARCH LABORATORY

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1 March, 1984

Dear

I am writing this to find out your availability to lecture at a forthcoming Summer School on 'Gauge Theories, Gravity and the Early Universe' to be held at Bangalore for four weeks during May 1985. The following are the details:

You might know that the University Grants Commission sponsored during 1983 three regional summer institutes on Relativity and Cosmology for Physics teachers at Calcutta, Udaipur and Kolhapur. Recently the U.G.C. Committee for Relativity and Cosmology met in Delhi and had discussions regarding the continuance of U.G.C. sponsored summer institutes in this subject. At that meeting it was decided to hold a 4-week summer institute on Gauge Theories and Gravitation (mainly Physics oriented) during May 1985 at Bangalore for post doctorals and some Physics teachers who had participated in the regional summer institutes. (Incidentally there will be four more regional institutes before May 1985). The main aim of this advanced school is to bring in together conventional relativists and field theorists and set up interacting working groups and encourage research in these interwoven fields.

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In order to make the Summer School very effective it was decided that a group of senior physicists working in these areas (from amongst whom the faculty is selected for the school) are invited to get together for a week in November 1984 (19th - 24th) at P.R.L. (Ahmedabad) and hold a workshop to prepare the course material. This way we can avoid the usual handicaps of various schools in not having proper links from one lecturer to another by way of material as well as notation. As the three broad topics chosen for the summer school are themselves being pursued with various different emphasis, it is very necessary that the teachers of the school are completely familiar with the course material of one another such that they could set up interesting problem sessions and working groups. We are sure that you agree with us on this idea and extend your cooperation. As I have mentioned above though finally we will have just about six to eight people who will actually give the courses at the summer school, we want to have about fifteen persons at the November 1984 workshop who will discuss thread bare and plan the course material.

With the above background I would like to know the following from you: <u>Will you be able to participate both in the Summer School and the Workshop or just in the Workshop?</u> As the dates for both are fixed we do not have any flexibility in this regard. Kindly let me know at your earliest convenience (preferably before the 20th of March 1984) regarding the feasibility of your participation.

$8\pi p = e^{-\lambda}\left(\frac{\nu'}{r} + \frac{1}{r^2}\right) - \frac{1}{r^2} + \Lambda$ $\qquad R_{ik} = 0$

$R_{ik} = \Lambda g_{ik}$

$8\pi p = e^{-\lambda}\left(\pm\frac{\lambda'}{r} - \frac{1}{r^2}\right) + \frac{1}{r^2} = -\Lambda$

$e^{-\lambda} = 1 - \frac{r^2}{R^2}$ $\qquad \nu = 0$

$8\pi p = \left(1 - \frac{r^2}{R^2}\right)\frac{1}{r^2} - \frac{1}{r^2} = -\frac{1}{R^2} + \Lambda$

$8\pi p = +\frac{2\nu}{R^2}\cdot\frac{1}{r} + \frac{1}{r^2}\left(1 - \frac{r^2}{R^2} - 1\right) = -\Lambda$

$= \frac{3}{R^2} - \Lambda$

$ds^2 = e^{\nu}dt^2 - e^{\omega}dr^2 - e^{\mu}(\quad)$

~~$8\pi p =$~~

$\dot{s} = -\frac{1}{s^2}$ $\qquad \cosh 2\theta = 1 - 2\sinh^2\theta$

$\cosh 2\theta = 1 + 2\sinh^2\theta$

$2s\dot{s} = -\frac{2}{s^2}\dot{s}$

$\dot{s}^2 = \frac{2}{s} + A$

$= \frac{2 + As}{s}$

$ds\sqrt{\frac{s}{2+As}} = dt$

$\frac{\cosh\theta - 1}{\sqrt{A}}\,d\theta = dt$

$\sqrt{\frac{As}{2}}\frac{1}{\sqrt{A}} - \log\sqrt{\frac{As}{2}} - \sqrt{1 + \frac{As}{2}} - dt$

$As = 2\sinh^2\theta$

$\frac{2A\sinh\theta\cosh\theta\,d\theta}{\sqrt{A}\,\sqrt{2}\cosh\theta}\sqrt{2}\sinh\theta = dt$

$\frac{2A\sinh^2\theta}{\sqrt{A}}\,d\theta = dt$

Looking forward to hearing from you a positive response.

With best regards,

Sincerely,

(A. R. Prasanna)

$x = R\cos\varphi$
$y = R\sin\varphi$
$x^2 + y^2 = R^2$
$ds^2 = R^2 d\varphi^2$

$x = R\sin\theta\cos\varphi$
$y = R\sin\theta\sin\varphi$
$z = R\cos\theta$
$x^2 + y^2 + z^2 = R^2$
$ds^2 = R^2\{d\theta^2 + \sin^2\theta\, d\varphi^2\}$

$x = R\sin\alpha\sin\theta\cos\varphi$
$y = R\sin\alpha\sin\theta\sin\varphi$
$z = R\sin\alpha\cos\theta$
$w = R\cos\alpha$
$x^2 + y^2 + z^2 + w^2 = R^2$
$ds^2 = R^2[d\alpha^2 + \sin^2\alpha\{d\theta^2 + \sin^2\theta\, d\varphi^2\}]$

$x = R\sin\beta\sin\alpha\sin\theta\cos\varphi$
$y = R\sin\beta\sin\alpha\sin\theta\sin\varphi$
$z = R\sin\beta\sin\alpha\cos\theta$
$w = R\sin\beta\cos\alpha$
$v = R\cos\beta$
$x^2 + y^2 + z^2 + w^2 + v^2 = R^2$
$ds^2 = R^2[d\beta^2 + \sin^2\beta\{d\alpha^2 + \sin^2\alpha\{d\theta^2 + \sin^2\theta\, d\varphi^2\}\}]$

$R^2 = \frac{3}{\Lambda}$

$ds^2 = c^2 dt^2 - R^2[d\alpha^2 + \sin^2\alpha\{d\theta^2 + \sin^2\theta\, d\varphi^2\}]$

$R\sin\alpha = r$

$dt^2 = \frac{dr^2}{1 - \frac{r^2}{R^2}} - r^2(\quad)$