

On the other hand, from the formula (20) follows that

$$B''_{ad}(r'') = k^{-2}B'_{ad}(r') = k^{-2}\beta_{ad}(r').$$

Thus for large r'

$$\beta_{ad}(r'/k^3) \sim k^{-2}\beta_{ad}(r'),$$

whence

$$\beta_{ad}(r') \sim C(r')^{\frac{2}{3}}, \quad (22)$$

where C is an absolute constant. In virtue of (17), (20) and (22) we have for r large in comparison with λ

$$B_{ad}(r) \sim C\epsilon^{\frac{2}{3}}r^{\frac{2}{3}}. \quad (23)$$

From (23) and (12) it is easy to deduce that for r large in comparison with λ

$$B_{nn}(r) \sim \frac{4}{3}B_{ad}(r). \quad (24)$$

As regards the last formula, observe that for r small in comparison with λ in virtue of (13) holds the relation

$$B_{nn}(r) \sim 2B_{ad}(r). \quad (25)$$

References

- Goldstein, S. (ed.) 1938 *Modern developments in fluid dynamics*, vol. 1, §95. Oxford.
 Kármán, T. 1937 *J. aeronaut. Sci.* 4, 131–138.
 Millionshtchikov, M. 1939 *Dokl. Akad. Nauk SSSR* 22, 236.
 Taylor, G. I. 1935 *Proc. R. Soc. Lond. A* 151, 421–454.

Entire quote: "Could you please help me locate the entire quote in Terry Goodrich's article in the recent Life-style/Entertainment section of the *Star-Telegram*? I would be most grateful."

—C.S.

Answerman: That is from a poem entitled *High Flight* by John Gillespie Magee Jr., 19, an American airman who was killed in World War II, while he was a volunteer of the Royal Canadian Air Force. It reads:

Oh, I have slipped the surly bonds of earth
 And danced the skies on laughter-silvered wings;
 Sunward I've climbed and joined the tumbling mirth
 Of sun-split clouds — and done a hundred things
 You have not dreamed of — wheeled and soared and swung
 High in the sunlit silence. Hovering there,
 I've chased the shouting wind along and flung
 My eager craft through footless halls of air.

Up, up the long, delicious, burning blue
 I've topped the wind-swept heights with easy grace
 Where never lark or even eagle flew,
 And, while with silent, lifting mind I've trod
 The high untrespassed sanctity of space,
 Put out my hand and touched the face of God.