in terms of the solution $\{\zeta_n\}$ of the infinite system

$$\sum_m \frac{m^2}{(m^2+n^2)^2}\zeta_n + \sum_m \frac{mn\zeta_n}{(m^2+n^2)^2} = -\frac{1}{n^3}, \quad m, n = 1, 3, 5, \ldots \tag{2.9}$$

The series (2.8) converges rapidly. It is sufficient to determine the first five values of ζ_n in system (2.9) by the reduction method, and the corresponding partial sum of the series (2.8) gives a good approxomation to the known solution of the problem /5/.

Note that to solve (2.1) a method analogous to that demonstrated in /1/ was chosen since it is more suitable for solving problems with non-homogeneous boundary conditions. Eq.(2.1) can be solved also using two representations of the unknown function /2/ by using in this case a system of sines that is complete in $[0, \pi]$ for the expansion in a Fourier series.

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SOME COMMENTS ON THE BOOK "HYDRODYNAMICS" BY L.D. LANDAU AND E.M. LIFSHITZ*

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The book in question (Theoretical physics, 1986, Vol.6) is the third edition of the part of the book "Mechanics of Continuous Media" (1953, 2nd ed.), which is concerned with hydrodynamics and contains some addenda and changes.

Some references are added in the new edition. To establish priorities, the first publications are indicated, often in sources inaccessible to Soviet readers. In view of this, we shall note some mistakes in these references.

1. It is said on p.674 that it will be shown in Sect.130 that, in some special cases, detonation must inevitably correspond to the Chapman-Jouguet condition, and a reference is given, according to which the proof of this condition was obtained by Ya. B. Zel'dovich (1940) /1/, and independently, in some later works. Yet the arguments quoted in Sect.130 (p.678) amount to proving the impossibility of realizing supercompression of detonation ($D < u_2 + a_2$) in many flows when a rarefaction wave is present behind the detonation wave.

It must be said here that the unrealizability of supercompressed detonation in these flows had been well established before 1940. This was mentioned directly in /1/ with references to Wendlant's work /2/ (1924) and to Jost's book /3/ (1939), to which there are no references in the present book. There are also no references to A.A. Grib's important results, published in his Candidate Dissertation presented in 1939 and defended in February 1940 (see also /4/) and cited by many authors (see e.g., /5/). In /6/ there is a reference to A.A. Grib in connection with the study of detonation, though not to /4/, but to a different paper not relating to detonation.

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2. In connection with refinement of the boundaries of stability of a shock wave (p.476), a reference is only given to V.M. Kontorovich's work /7/. Yet the same result was obtained earlier in S.V. Iordanskii's well-known paper /8/.

3. When discussing the possiblity of decay of a certain type of unstable shock waves (p.478), a reference is given to N.M. Kuznetsov's work /9/, though the decay of shock waves of this type was considered earlier by S.A. Egorushkin /10/.

4. In connection with the short shock problem (p.569), a reference is only given to Ya. B. Zel'dovich's work /11/ (1956). It should be mentioned that calculations concerned with this problem were made by V.B. Adamskii and published in a separate paper /12/ in the same manner of the journal as /11/. But the same solution was obtained earlier by Weizsäcker /13/ (1954), to which there is a reference e.g., in Ya. B. Zel'dovich and Yu. P. Raizer /14/.

The author of these comments, while acquainted with the manuscript of the book before publication, unfortunately did not notice these mistakes at the time, but feels it his duty to mention them now, since questions of priority and historical authenticity are important in science.

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