TYPOS IN THE SAFAROV&VASSILIEV BOOK

(all of them, apart from **5** and **10**, have been corrected in the softcover edition)

1. On page vii (first page of the table of contents) $N(l)$ should read $N(\lambda)$ (3 times).

2. On page 12 line 7 from below (displayed formula preceding Lemma 1.3.4) in the second equality the superscript ^{a} should be added in one place. That is, $\Pi = \bigcup_{T>0} \Pi^a_T$ should read $\Pi^a = \bigcup_{T>0} \Pi^a_T$.

3. On page 42 line 8 from below (second line above the displayed formula $(1.6.11^+)$) $\mathbb{R}_+ \setminus \{0\}$ should read $\mathbb{R} \setminus \{0\}$.

4. On page 88 line 16 from below (second line above the displayed formula (2.4.37)) "the product of φ and q" should read "the product of φ and p".

5. The paragraph preceding Lemma 2.7.9, Lemma 2.7.9 itself and the two subsequent paragraphs (pages 106–107) contain mistakes. They should be replaced by the following text:

The following lemma gives a convenient representation for the operator $\mathfrak{S}_{-1}$. The choice of this representation is motivated by the fact that further on (in the next subsection, as well as in Sections 3.3 and 3.4) we will have to apply the operator $\mathfrak{S}_{-1}$ only to functions which have a second order zero on $\mathfrak{C}_i$.

Lemma 2.7.9. *The operator* $\mathfrak{S}_{-1}$ *has the form*

$$\mathfrak{S}_{-1} = -\frac{i}{2}\mathfrak{S}_0 \operatorname{tr}\left(x^*_\eta \cdot \Phi^{-1}_{x\eta} \cdot \partial_{xx}\right) + \sum_{\substack{0\leqslant|\beta|\leqslant1 \\ |\alpha|=1}} C_{1,\alpha,\beta}\, \partial^\beta_\eta\, \mathfrak{S}_0\, \partial^\alpha_x \,. \tag{2.7.18}$$

Note that when $\mathfrak{S}_{-1}$ acts on functions with a second order zero on $\mathfrak{C}_i$, the second term on the right-hand side of (2.7.18) gives a zero contribution. It is also easy to see that on functions with a second order zero on $\mathfrak{C}_i$, the first term on the right-hand side of (2.7.18) is invariant under changes of local coordinates x and y (all the matrices involved behave as tensors under changes of coordinates). The latter is not surprising because the full operator (2.7.14) is invariant.

Proof of Lemma 2.7.9. Formula (2.7.18) is an immediate consequence of (2.7.14), (2.4.9), (2.4.10) and the operator identity $\mathfrak{S}_0\,\partial_\eta = \partial_\eta\,\mathfrak{S}_0 - (x^*_\eta)^T\mathfrak{S}_0\,\partial_x$. □

6. On page 143 in the right-hand side of formula (3.3.7) the last two "plus" signs should read as two "minus" signs.

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7. On page 175 line 6 from above (second line of Lemma 4.1.14) $x = x^*(T; y, \eta_0)$ should read $y = x^*(T; y, \eta_0)$.

8. On page 266 line 10 from above (first line of Theorem A.2.2) $u \in C_0^\infty(0, +\infty)$ should read $u, v \in C_0^\infty(0, +\infty)$.

9. On page 289 upper line "in (A.3.31)" should read "in (A.3.30)".

10. In the proof of Lemma A.3.23 on page 290 the following text should replace the argument starting with "To identify these..." and finishing just before "Finally, γ_{22} is what remains":

To identify these parts we observe that for $0 < x < y$ and fixed y the function $x \mapsto \mathbf{r}^+_{\nu+i0}(x, y)$ is a solution to the equation $A(D)u = \nu u$ which satisfies $(B(D)u)(+0) = 0$. Thus, for such x, we have

$$\mathbf{r}^+_{\nu+i0}(x, y) = \sum_{k=1}^{m} a_k^-(y) e^{ix\xi_k^-(\nu)} + \sum_{k=1}^{m} a_k^+(y) e^{ix\xi_k^+(\nu)},$$

where the coefficients $a^+(y)$ are linear functions of the $a^-(y)$. On the other hand we can write

$$\mathbf{r}^+_{\nu+i0}(x, y) = (\mathbf{r}^+_{\nu+i0}(x, y) - \mathbf{r}_{\nu+i0}(x, y)) + \mathbf{r}_{\nu+i0}(x, y),$$

where $\mathbf{r}_{\nu+i0}(x, y) = -i \sum_{k=1}^m \frac{e^{i(x-y)\xi_k^-(\nu)}}{A(\xi_k^-(\nu))}$, for $x < y$, and the first term on the right is a linear combination of the $e^{ix\xi_k^+(\nu)}$. This determines the coefficients $a^-(y)$ explicitly. Since $a^+(y)$ is linear in $a^-(y)$, we conclude that

$$\mathbf{r}^+_{\nu+i0}(x, y) = (\Gamma^+_{\mathrm{in}}(\nu)^*(\tilde{a}^-(y)))(x) + w(x, y), \qquad x < y,$$

where $\tilde{a}_l^-(y)$ is determined by the first q terms in the expression for $\mathbf{r}_{\nu+i0}(x, y)$ and $w(x, y)$ contains no terms that are purely oscillating in y. This gives us the formulae for γ_{11} and γ_{21}. To derive the formula for γ_{12} we use that $\mathbf{r}_{\nu+i0}(x, y) = \overline{\mathbf{r}_{\nu-i0}(y, x)}$ (and the corresponding formula for $\mathbf{r}^+_{\nu+i0}$) and argue in a similar manner.