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$T_0=\epsilon\mu^{-1}$

$C\mu^{-1}|\xi_{free}|\le C\mu^{-1}T_1=\epsilon\varrho\varrho=|\xi_{free}||t|T_1=\epsilon\varrho|\log\varrho|^2(l,\sigma)\succeq(1,2)$
$\{|\xi_{free}|\ge\bar\varrho\}^{1-d}\int|\log\varrho|^{-\sigma}\,d\varrho^q\le Ch^{1-d-d}\int\bigl(\frac{h}{\varrho}\bigr)^l|\log\frac{h}{\varrho}|^{-\sigma}\,d\varrho^q\le Ch^{1-d}(l,\sigma)=(1,2)q=1(l,\sigma)=(1,1)q\ge 2\varrho^q\{\varrho\le|\xi_{fr}$
$\varepsilon\xi$
$\{|\xi_{free}|\le\bar\varrho\}$
$T_1=\epsilon\mu^{-1}\varepsilon=C\mu h|\log h|$
$C\mu h^{1-d}\bar\varrho^q$
$q=1Ch^{1-d}\mu\le h^{-\frac13}|\log h|^{-\frac13}q=2Ch^{1-d}\mu\le h^{-\frac12}|\log h|^{-\frac12}$

Theorem 3 *Let either $q=1,\ V\in C^{1,2}$ or $q\ge 2,\ V\in C^{1,1}$. Then the following estimate holds* $-\int\bigl(e(x,x,\tau)-E^{MW}(x,\tau)\bigr)$
$Ch^{1-d}+C(\mu h)^{\frac q2+1}h^{-d}$. *In particular, for $q=1,\ \mu\le h^{-\frac13}$ and $q\ge2,\ \mu\le h^{-\frac12}$ sharp remainder estimate $O(h^{1-d})$ holds.*
$\varrho\le(\mu h|\log h)^{1/2}T=h\varepsilon^{-1}|\log h|$

Theorem 4 *Let either $q=1,\ V\in C^{l,\sigma}$ or $q\ge2,\ V\in C^{1,1}$. Let non-degeneracy condition (7) be fulfilled. Then the following*
$Ch^{1-d}+C(\mu h)^{\frac q2+l}|\log h|^{l-\sigma}h^{-d}$. *In particular, for $q=1,\ l=3/2,\ \sigma=1/2,\ \mu\le h^{-\frac12}|\log h|^{-1/2}$ sharp remainder estimate* C
$d=2$

$d=3\sum_{m+k+j\ge1}\mu^{2-2k-2m-2j}a_{m,k,j}(x_2,x_3,\mu^{-1}hD_2)\times$
$\bigl(h^2D_1^2+\mu^2x_1^2\bigr)^m(hD_3)^{2j}.$
$\varepsilon a_*(x_2,\xi_2)\varepsilon\mu^{-1}h\varepsilon^2\ge C\mu^{-1}h|\log h|$

$H_0Hx''\mapsto\mu^{-1}h\xi''x''x=(x';x'';x''')=(x_1,\dots,x_r;x_{r+1},\dots,x_{2r};x_{2r+1},\dots,x_d)H\sum_{1\le j\le r}\bigl(h^2D_j^2+\mu^2(\xi_{j+r}-f_jx_j)^2\bigr)+\sum$
$V(x',\mu^{-1}hD_{\xi''},x''').$
$x'_{new}=\mu(\Phi^{-\frac12}x'-\Phi^{\frac12}\xi'')\phi=diag(f_1^{-1},\dots,f_r^{-1})\sum_{1\le j\le r}f_j\bigl(\mu^2h^2D_j^2+x_j^2\bigr)+\sum_{1\le k\le q}h^2D_{2r+k}^2+$
$V(\mu^{-1}\Phi^{\frac12}x'+\Phi x'',\mu^{-1}hD'',x''')\xi''x''$
$\tau\le c|x'|\le C_0\sum_{1\le j\le r}f_j\bigl(\mu^2h^2D_j^2+x_j^2\bigr)+\sum_{1\le k\le q}h^2D_{2r+k}^2+$
$V(\Phi x'',\mu^{-1}hD'',x''').$
$(\mu h)^{-\frac12}x'$

$\bullet q=0\mu^{-1}hO(\mu h^{1-d})\alpha V_\alpha\equiv\tau H_\alpha\mu^rh^{-r}\asymp(\mu h)^{-r}|\alpha|\ge C(\mu h)^{-1}H_\alpha$
$H_\alpha O(\mu^{r-1}h^{1-r})O(\mu^{r-1}h^{1-r}\times(\mu h)^{-r})=O(\mu^{-1}h^{1-d})\bullet q\ge 1\ddot{o}x'''\mu^{-1}hx''qlO(h^{1-q}\times\mu^rh^r)O(h^{-q}\times\mu^rh^r)O(h^{1-d})\asymp h^{-d}$
$H\mu^{-1}\Phi^{\frac12}x'V\mu^{-1}$
$V(\mu^{-1}\Phi^{\frac12}x'+\Phi x'',\mu^{-1}hD'',x''')x'O(\mu^{-l}|\log\mu|^{-\sigma})\varepsilon=C\mu^{-1}$
$x'e^{-i\mu^{-1}h^{-1}L}e^{i\mu^{-1}h^{-1}L}L=L(x'',x''',\mu^{-1}hD'';x',\mu hD')\mu^{-1}h^{-1}[H^0,L]+\dots H^0=\sum_{1\le j\le r}f_j\bigl(\mu^2h^2D_j^2+x_j^2\bigr)L=\sum_{1\le j\le r}$
$\mu^{-2}x',\mu^{-1}hD'$
$e^{-i\mu^{-2}h^{-1}L}e^{i\mu^{-2}h^{-1}L}\sum_j\quad b_j(x'',x''',\mu^{-1}hD'',hD''')(\mu^2h^2D_j^2+x_j^2)+$
$\sum_{j\ne k,f_j=f_k}\Bigl(b'_{jk}(x'',x''',\mu^{-1}hD'',hD''')(\mu^2h^2D_jD_k+x_jx_k)+$
$b''_{jk}(x'',x''',\mu^{-1}hD'',hD''')\mu h(x_kD_j-x_jD_k)\Bigr)f_j=f_kj\ne k$
$f_j=f_k+f_mf_j=2f_k$
$\underline{\varepsilon}$ *Sowechoose* $\varepsilon=C\mu^{-1}\mu\le h^{-1}|\log\mu|^{-1}\varepsilon=C(\mu^{-1}h|\log\mu|)^{\frac12}d=2,3\varepsilon=C(\mu^{-1}h|\log\mu|)^{\frac12}\mu\le h^{-1}|\log\mu|^{-1}r=1\ \mu^{-1}h^{-1}$