Ontbrekende delen artikelen Neishtadt

Artikel I
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Hier mist het eerste deel van de eerste alinea:
Theorem 1. If the right sides in (1.1) can de analytically continued, with respect to x, y into a complex neighborhood of the 'state'$L_y(\tau_*)$ not depending on ϵ, remaining smooth...

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Hier mist de bovenkant van de pagina:
$|\partial u_{j+1}/\partial y| < k_4 M_j/k\epsilon, |\partial u_{j+1}/\partial \varphi| < k_4 M_j/k\epsilon, |h_{j+1}| < k_5 M_j/k, |\phi_{j+1} - \phi_j| < k_6 Mj/k\epsilon, |\Psi_{j+1} - \Psi_j| < k_7 M_j$. If $(Z, \varphi, y) \in D_{j+1} = D_j - k\epsilon$, the Cauchy's inequality implies that...

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Hier mist de bovenkant van de pagina:
in eq. (4.1). The function $q(\rho)$ is assumed to be continuous for $\rho > 0$ and such that $\rho^{-1} q(\rho) x \ln \rho$ is a monotonic function of ρ. The function h is clearly infinitely differentiable, but it is not analytic in any neighborhood of $\tau = 0$. The notation of example 2...

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Eerste alinea ontbreekt:
Proof. In the variables ξ, y the original equations are

$$\dot{xi} = A(y)\xi + O(|\xi|^2) + O(\epsilon), A = \partial f(X(y), y, 0)/\partial x$$

$$\dot{y} = \epsilon G(y) + \epsilon O(|\xi|) + O(\epsilon^2), G = g(X(y), y, 0)$$

(Dit is vergelijking 4.2)
The transformation required is the composition of the following transformations.
A. We arrange that the free term (which doen not vanish for $\xi = 0$) in the equation for ξ be $O(\epsilon^3)$. In a sufficiently small neighborhood of L in which $\lambda_i(y) \neq 0, i = 1, 2, \ldots, n$ and for each y the right side of the equation for ξ in (4.2) vanishes at a unique point $\xi = \epsilon h(y, \epsilon)$. The substitution $\hat{\xi} = \xi + \epsilon h(y, \epsilon)$ transforms the free...

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Hier mist de onderkant van de pagina:
Each point of the sector S_1 can be reached from t_1 by passing along the upper boundary Γ_ϵ of the sector and then vertically upwards along the line $Re\ t$ =const. On Γ_ϵEq (4.5) becomes $dz/d\sigma = i\omega(\epsilon\sigma)z + O(a)$ (4.6).

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Hier missen 2 alinea's aan de bovenkant:
where σ is the arc length along Γ_ϵ and ω is a non zero constant real function. This function is real because, on Γ_ϵ, the quantity $Re\Psi_\epsilon$ is constant, this consideration is basic in the proof. For Eq. (4.6) without the last term, $|z|$ is an integral. For the complete equation (4.6), $|z|$ is an adiabatic invariant: for $t \in \Gamma_\epsilon$ we have $|z(t)| = |z(t_1)| + O(\epsilon^2 |\ln \epsilon|) < 3/2\epsilon$.

On the vertical line (4.5) becomes $dz/ds = -i\Lambda_1(y_\epsilon(\epsilon t))z + O(a)s = -Im\ t$. Condition 5) in Sec 2 implies that the vertical line in S_1 intersects the curve $Re\Psi_\epsilon$ =const transversally. Hence $Re\Psi_\epsilon$ is decreasing along this line and so the function $[-i\Lambda_1(y_\epsilon(\epsilon t))]$ has a constant nonvanishing negative real part. Thus, for motion downwards, $|z(t)|$ decreases as long as $|z(t)| > c_7 a$. Hence $|z(t)| < 3/2\epsilon$ for $t \in S_1$.