A Tutorial Overview of Ordinal Notations

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ocfrecdef.txt
10.1
$\psi_\nu(Lim_{\kappa+1}h) = lim[\psi_\nu(h((\psi_\kappa \circ h)^\bullet(\zeta)))]$
Concerning the last formula, with ... we also get the previous one for ψ_0 but it is not the same formula as for Buchholz function which we will see later.
buchholz psi functions 10.3.3 7.
$\psi_\nu(Lim_{\mu+1}h) = lim(\xi \mapsto \psi_\nu(h((\psi_\mu \circ h)^\xi(\Omega_\mu))))$
Maksudov
first system
$\psi_{\chi(0,\beta+1)}(0) = \chi(0,\beta) \cdot \omega$
$\psi_{\chi(0,\beta)}(\gamma+1) = \psi_{\chi(0,\beta)}(\gamma) \cdot \omega$
$\psi_{\chi(\beta+1,0)}(0) = lim[(\chi \circ f)^\bullet(0)]$
$\psi_{\chi(\beta+1,\gamma+1)}(0) = lim[(\chi \circ f)^\bullet(\chi(\beta+1,\gamma)+1)]$
$\psi_{\chi(\beta+1,\gamma)}(\delta+1) = lim[(\chi \circ f)^\bullet(\psi_{\chi(\beta+1,\gamma)}(\delta)+1)]$
$\psi_{\chi(Lim_\mu f,0)}(0) = Lim_\mu[\chi(f(\bullet),0)]$ if $\omega_\mu \geq \omega$
$\psi_{\chi(Lim_\mu f,\gamma+1)}(0) = Lim_\mu[\chi(f(\bullet), chi(Lim_\mu f,\gamma)+1))]$ if $M > \omega_\mu \geq \omega$
$\psi_{\chi(Lim_\mu f,\gamma)}(\delta+1) = Lim_\mu[\chi(f(\bullet), \psi_{\chi(\beta,\gamma)}(\delta)+1)]$
$\psi_{\chi(lim_M f,0)}(0) = lim[[\chi(f(\bullet),0)]^\bullet(1)]$
$\psi_{\chi(lim_M f,\gamma+1)}(0) = lim[[\chi(f(\bullet),0)]^\bullet(\chi(Lim_M f,\gamma)+1)]$
$\psi_{\chi(lim_M f,\gamma)}(\delta+1) = lim[[\chi(f(\bullet),0]^\bullet(\psi_{\chi(Lim_M f,\gamma)}(\delta)+1)]$
$\chi(\beta, Lim_\mu) = Lim_\mu[\chi(\beta, f(\bullet))]$ if $\omega_\mu \geq \omega$
$\psi_\pi(Lim_\mu f) = Lim_\mu(\psi_\pi \circ f)$ if $\pi > \omega_\mu \geq \omega$
$\psi_\pi(Lim_\mu f) = lim[\psi_\pi(f((\psi_\mu)^\bullet(1)))]$
second system
$\psi_{\chi(0)}(0) = 1$
$\psi_{\chi(\beta+1)}(0) = \chi(\beta) \cdot \omega$
$\psi_{\chi(Lim_\mu f)}(0) = Lim_\mu(\chi \circ f)$ if $\omega_\kappa < M$
$\psi_{\chi(lim_M f)}(0) = lim[(\chi \circ f)^\bullet 1]$
$\psi_{\chi(\lim_M f)}(\gamma+1) = lim[(\chi \circ f)^\bullet(\psi_{\chi(\beta)}(\gamma)+1)]$
$\psi_{\chi(\beta)}(\gamma+1) = \psi_{\chi(\beta)}(\gamma) \cdot \omega$
$\psi_\pi(Lim_\mu f) = Lim_\mu(\psi_\pi \circ f)$ if $\pi > \omega_\mu \geq \omega$
$\psi_\pi(Lim_\mu f) = lim[\psi_\pi(f((\psi_\mu \circ f)^\bullet(1)))]$ if $\omega_\mu \geq \pi$