

Update of the Quasi-Analytical Algorithm (QAA_v6)

	$r_{rs}(\lambda) = R_{rs}(\lambda)/(0.52 + 1.7 R_{rs}(\lambda))$	
	$u(\lambda) = \frac{-g_0 + \sqrt{(g_0)^2 + 4g_1 * r_{rs}(\lambda)}}{2g_1}$, where $g_0=0.089$ and $g_1=0.1245$	
	IF $R_{rs}(670) < 0.0015 \text{ sr}^{-1}$ (QAA_v5)	(else)
2	$\chi = \log \left(\frac{r_{rs}(443) + r_{rs}(490)}{r_{rs}(55x) + 5 \frac{r_{rs}(670)}{r_{rs}(490)} r_{rs}(670)} \right)$ $a(\lambda_0) = a(55x) = a_w(\lambda_0) + 10^{h_0 + h_1 \chi + h_2 \chi^2}$	$a(\lambda_0) = a(670)$ $= a_w(670) + 0.39 \left(\frac{R_{rs}(670)}{R_{rs}(443) + R_{rs}(490)} \right)^{1.14}$
3	$b_{bp}(\lambda_0) = b_{bp}(55x) = \frac{u(\lambda_0) \times a(\lambda_0)}{1 - u(\lambda_0)} - b_{bw}(55x)$	$b_{bp}(\lambda_0) = b_{bp}(670) = \frac{u(\lambda_0) \times a(\lambda_0)}{1 - u(\lambda_0)} - b_{bw}(670)$
4	$\eta = 2.0 \left(1 - 1.2 \exp \left(-0.9 \frac{r_{rs}(443)}{r_{rs}(55x)} \right) \right)$	
5	$b_{bp}(\lambda) = b_{bp}(\lambda_0) \left(\frac{\lambda_0}{\lambda} \right)^\eta$	
6	$a(\lambda) = (1 - u(\lambda))(b_{bw}(\lambda) + b_{bp}(\lambda)) / u(\lambda)$	
7 & 8	$\zeta = 0.74 + \frac{0.2}{0.8 + r_{rs}(443)/r_{rs}(55x)}$ $\xi = e^{S(442.5 - 415.5)}, S = 0.015 + \frac{0.002}{0.6 + r_{rs}(443)/r_{rs}(55x)}$	
9 & 10	$a_g(443) = \frac{a(412) - \zeta a(443)}{\xi - \zeta} - \frac{a_w(412) - \zeta a_w(443)}{\xi - \zeta}$ $a_{dg}(\lambda) = a_g(443) e^{-S(\lambda - 443)}, a_{ph}(\lambda) = a(\lambda) - a_{dg}(\lambda) - a_w(443)$	