So now we have:

Large set of measurements

Endpoint	S5 Fit	S5 Fit error
l^+l^- edge	109.10	0.13
l^+l^-q edge	532.1	3.2
$l^\pm q$ high-edge	483.5	1.8
$l^\pm q$ low-edge	321.5	2.3
l^+l^-q threshold	266.0	6.4
Xq edge	514.1	6.6
ΔM (M_{T2} edge)	——	——

+

Theoretical expressions for edge positions in terms of masses

Related edge	Kinematic endpoint
l^+l^- edge	$(m_{ll}^{\max})^2 = (\tilde{\xi} - \tilde{l})(\tilde{l} - \tilde{\chi})/\tilde{l}$
l^+l^-q edge	$(m_{llq}^{\max})^2 = \begin{cases} \max\left[\frac{(\tilde{q}-\tilde{\xi})(\tilde{\xi}-\tilde{\chi})}{\tilde{\xi}}, \frac{(\tilde{q}-\tilde{l})(\tilde{l}-\tilde{\chi})}{\tilde{l}}, \frac{(\tilde{q}\tilde{l}-\tilde{\xi}\tilde{\chi})(\tilde{\xi}-\tilde{l})}{\tilde{\xi}\tilde{l}}\right] \\ \text{except for the special case in which } \tilde{l}^2 < \tilde{q}\tilde{\chi} < \tilde{\xi}^2 \text{ and} \\ \tilde{\xi}^2\tilde{\chi} < \tilde{q}\tilde{l}^2 \text{ where one must use } (m_{\tilde{q}} - m_{\tilde{\chi}_1^0})^2. \end{cases}$
Xq edge	$(m_{Xq}^{\max})^2 = X + (\tilde{q} - \tilde{\xi})\left[\tilde{\xi} + X - \tilde{\chi} + \sqrt{(\tilde{\xi} - X - \tilde{\chi})^2 - 4X\tilde{\chi}}\right]/(2\tilde{\xi})$
l^+l^-q threshold	$(m_{llq}^{\min})^2 = \begin{cases} [\ 2\tilde{l}(\tilde{q}-\tilde{\xi})(\tilde{\xi}-\tilde{\chi}) + (\tilde{q}+\tilde{\xi})(\tilde{\xi}-\tilde{l})(\tilde{l}-\tilde{\chi}) \\ \ -(\tilde{q}-\tilde{\xi})\sqrt{(\tilde{\xi}+\tilde{l})^2(\tilde{l}+\tilde{\chi})^2 - 16\tilde{\xi}\tilde{l}^2\tilde{\chi}}\ \ ]/(4\tilde{l}\tilde{\xi}) \end{cases}$
$l^\pm_{\rm near}q$ edge	$(m_{l_{\rm near}q}^{\max})^2 = (\tilde{q} - \tilde{\xi})(\tilde{\xi} - \tilde{l})/\tilde{\xi}$
$l^\pm_{\rm far}q$ edge	$(m_{l_{\rm far}q}^{\max})^2 = (\tilde{q} - \tilde{\xi})(\tilde{l} - \tilde{\chi})/\tilde{l}$
$l^\pm q$ high-edge	$(m_{lq(\rm high)}^{\max})^2 = \max\left[(m_{l_{\rm near}q}^{\max})^2, (m_{l_{\rm far}q}^{\max})^2\right]$
$l^\pm q$ low-edge	$(m_{lq(\rm low)}^{\max})^2 = \min\left[(m_{l_{\rm near}q}^{\max})^2, (\tilde{q} - \tilde{\xi})(\tilde{l} - \tilde{\chi})/(2\tilde{l} - \tilde{\chi})\right]$
M_{T2} edge	$\Delta M = m_{\tilde{l}} - m_{\tilde{\chi}_1^0}$